ORDER NO. AD9512271C8

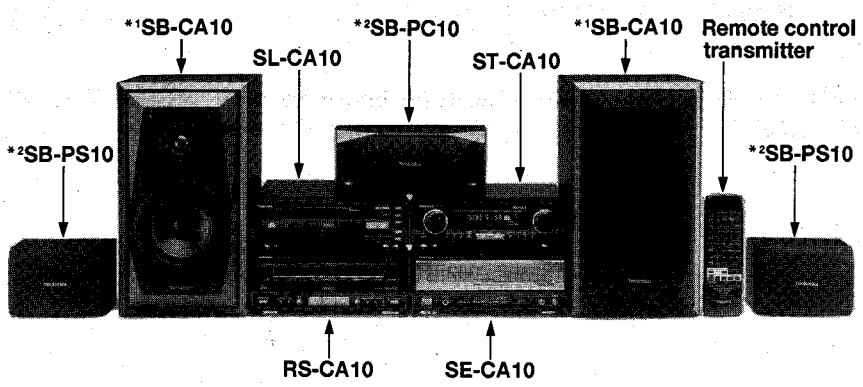
Service Manual

Cassette Deck

RS-CA10

Cassette deck

DOLBY SYSTEM*



Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Colour

(K)...Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Europe, Asia, Latin America, Middle East, Africa and Oceania	(K)

System: SC-CA10

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation, "DOLBY", and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

AR-1 MECHANISM SERIES

■ SPECIFICATIONS

Deck system	Stereo cassette deck
Track system	4 track, 2 channel
Recording system	AC bias
Bias frequency	100kHz
Erasing system	AC erase
Heads	
Deck 1	
(Playback head)	Permalloy head
Deck 2	
(Recording/ Playback head)	Permalloy head
(Erasing head)	Double gap ferrite head
Motors	
Deck 1,2	
Capstan drive	DC servo motor
Reel table drive	DC motor
Tape speed	4.8 cm/s
Wow and flutter	0.1% (WRMS)
Fast forward and rewind times	Approx. 52 seconds with C-60 cassette tape
Frequency response	
(Dolby NR off)	
NORMAL	20Hz - 17kHz (DIN)
CrO2	20Hz - 17kHz (DIN)
METAL	20Hz - 17kHz (DIN)
S/N (Signal level=max recording level, CrO_2)	
NR off	56dB (A weighted)
Dolby NR B on	66dB (A weighted)
Dolby NR C on	74dB (A weighted)
Input sensitivity and impedance	
REC (IN)	400mV/ 23kΩ
Output voltage and impedance	
PLAY (OUT)	280mV/ 220Ω

■ **General**

Dimensions (WxHxD)	280x118.5x265 mm
Weight	2.5 kg

Notes:

1. Weight and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

System	Tuner	CD changer	Amplifier	Cassette deck	Speakers
SC-CA10	ST-CA10	SL-CA10	SE-CA10	**RS-CA10**	*1 SB-CA10 (Front) *2 SB-PC10 (Center) (SB-PC10+SB-PS10)

*1 Made in PAES

*2 For (E, EB, EG) areas.....Made in PAES
For (GC, GN) areas.....Made in NABEL

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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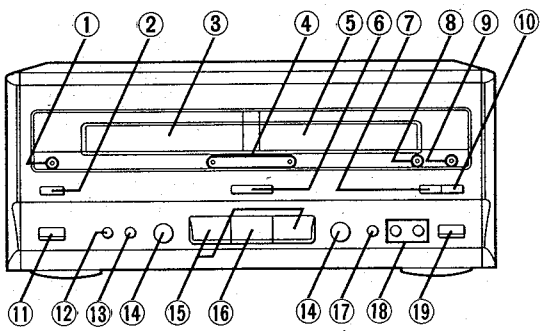
NOTE:
Refer to the service manual for Model No. SE-CA10 (ORDER No. AD9512272C8) for information on "ACCESSORIES", "INSTALLATION ", "CONNECTIONS" and "PACKAGING".

■FRONT PANEL CONTROL



① Deck 1 indicator (DECK 1)
② Deck 1/deck 2 select button (DECK 1/2)
③ Deck 1 cassette holder
④ Fast forward/rewind indicators (HIGH SPEED FF/REW)
⑤ Deck 2 cassette holder
⑥ TPS skip button (TPS SKIP)
⑦ Counter reset button (RESET)
⑧ Record pause indicator (REC PAUSE)
⑨ Deck 2 indicator (DECK 2)
⑩ Counter display button (DISPLAY)
⑪ Deck 1 cassette holder open/close button (▲ OPEN/CLOSE)
⑫ Dolby noise reduction button (DOLBY NR)
⑬ Reverse mode select button (REV MODE)
⑭ Fast forward/rewind/tape program sensor buttons (◀◀ [TPS], ▶▶ [TPS])
⑮ Playback buttons and indicators (◁, ▷)
⑯ Stop button (□)
⑰ Record pause button (● REC PAUSE)
⑱ Tape edit buttons (TAPE EDIT, NOR, HIGH)
⑲ Deck 2 cassette holder open/close button (▲ OPEN/CLOSE)

■ OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT PROCEDURES

NOTE

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Illustrated screws are equivalent to actual size.**
5. **Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.**

• Contents

•Checking Procedure for each P.C.B. Page.

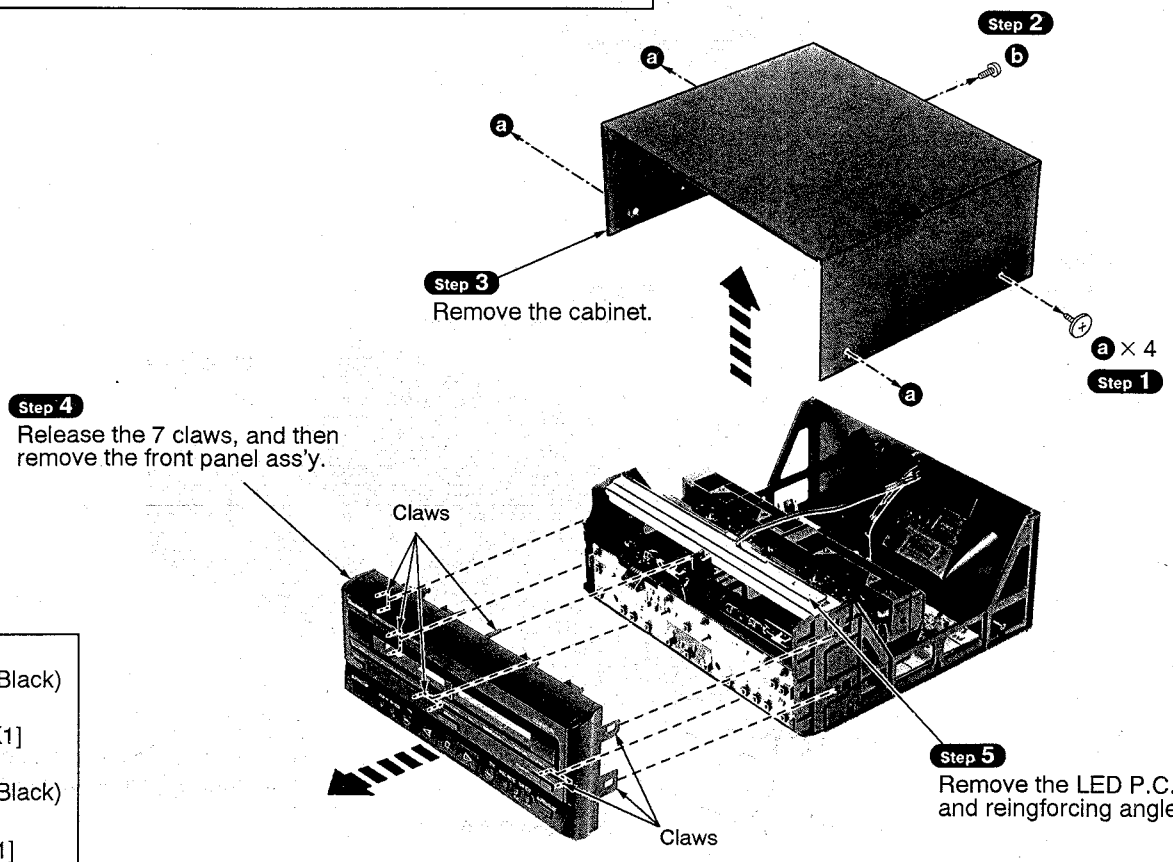
1. Checking for the main P.C.B. and operation P.C.B.. ..... 3,4.

•Main Component Replacement Procedures

1. Replacement for the cassette holder ass'y. ..... 5~7.
2. Replacement for the belt, reel motor ass'y and capstan motor ass'y. ..... 7~9.
3. Replacement for the parts mounted on mechanism P.C.B. and solenoid. ..... 9,10.
4. Replacement for the head block and pinch roller ass'y. ..... 10.

■ Checking Procedure for each P.C.B.

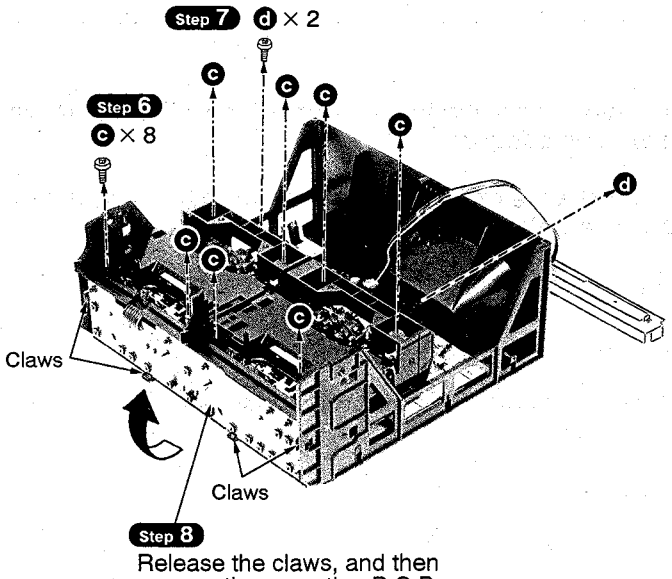
1. Checking for the main P.C.B. and operation P.C.B.



ⓐ (Black)
[RHD30007 - K1]

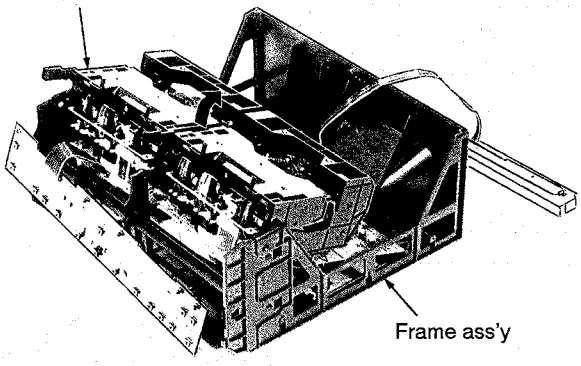
ⓑ (Black)
[XTBS3+8JFZ1]

ⓒ (Black)
[XTB3+10JFZ]
ⓓ (Black)
[XTBS3+8JFZ1]



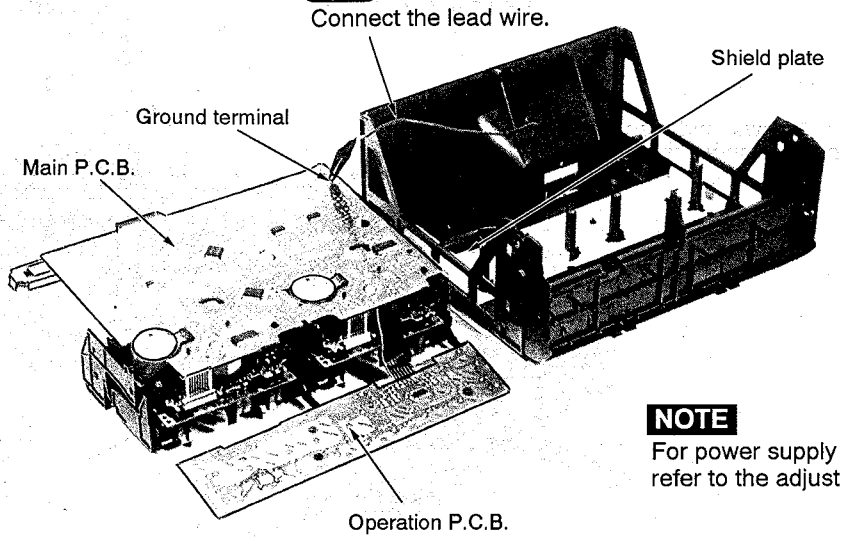
Release the claws, and then remove the operation P.C.B..

Step 9
Remove the mechanism ass'y and main P.C.B. from the frame ass'y.



• **Check the main P.C.B. and operation P.C.B. as shown below.**

Step 10
Connect the lead wire.

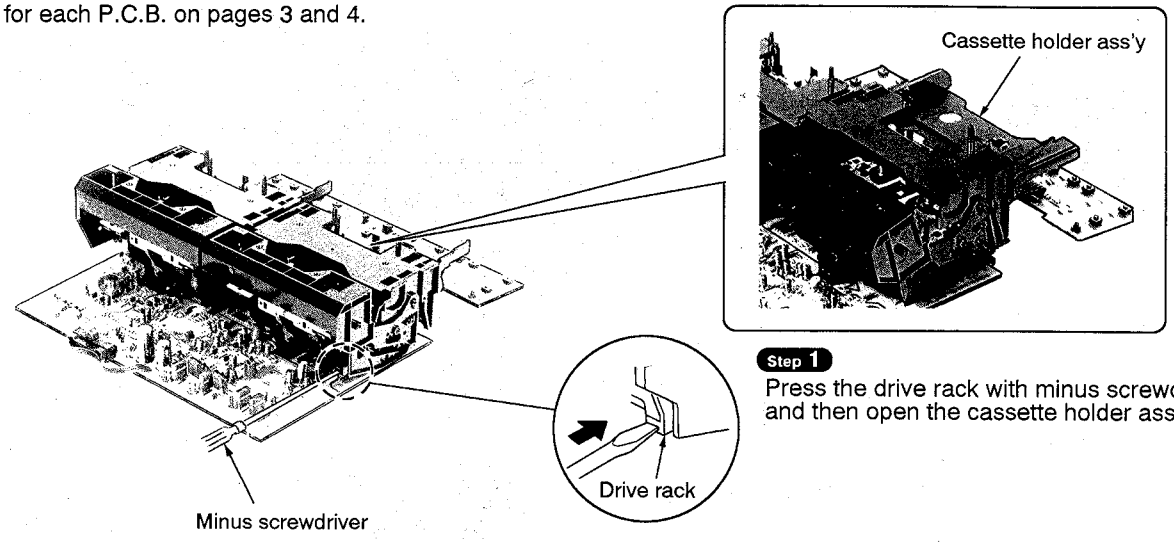


NOTE
For power supply and test points shorting, refer to the adjust procedures on page 12.

■ Main Component Replacement Procedures

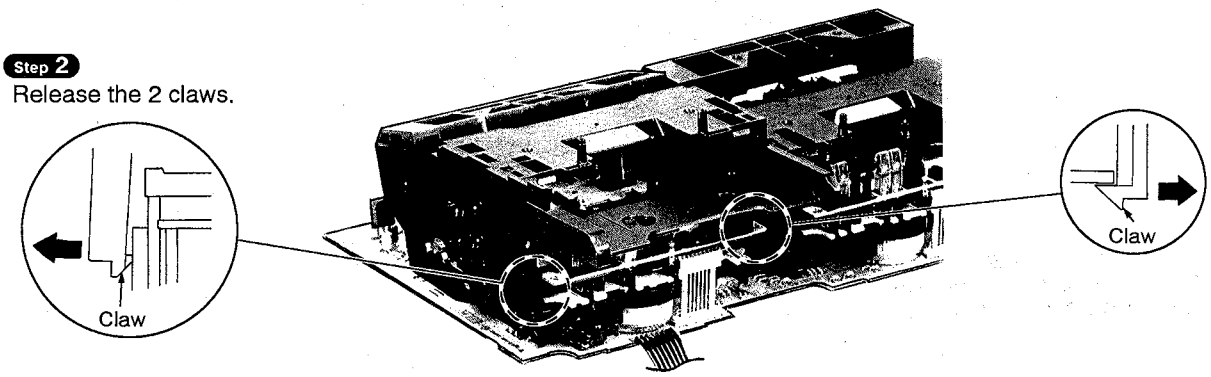
1. Replacement for the cassette holder ass'y

• Follow the (Step 1 ~ Step 9) of the item 1 in checking procedure for each P.C.B. on pages 3 and 4.

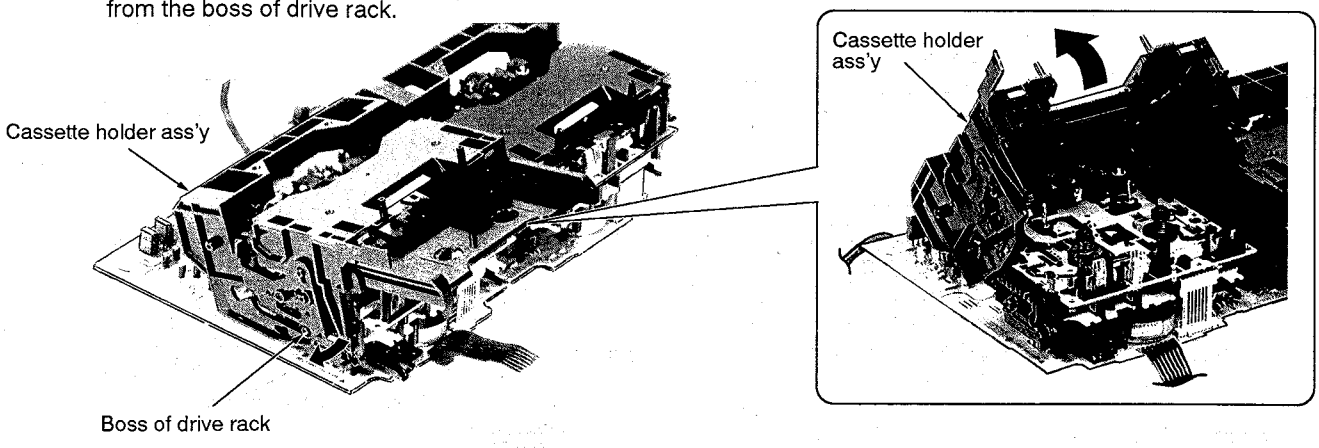


Step 1
Press the drive rack with minus screwdriver, and then open the cassette holder ass'y.

Step 2
Release the 2 claws.

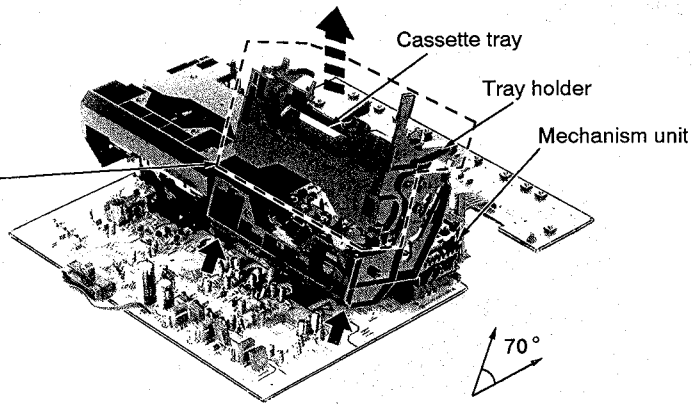


Step 3
Remove the cassette holder ass'y from the boss of drive rack.



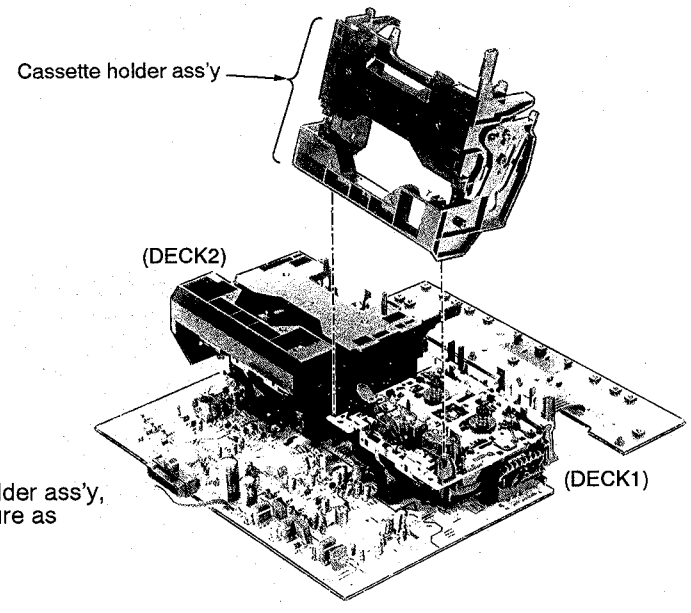
Step 4

Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then pull out the cassette holder ass'y.



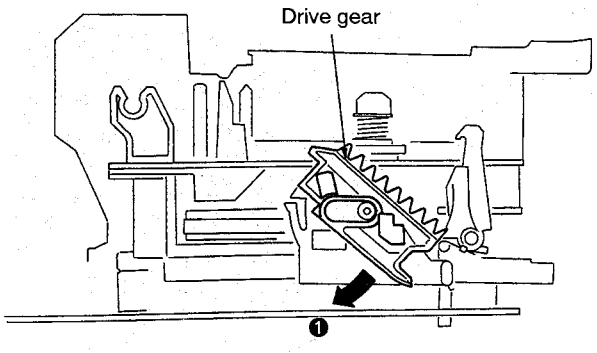
NOTE

When removing the cassette holder ass'y, avoid to pull it with holding cassette tray or tray holder.



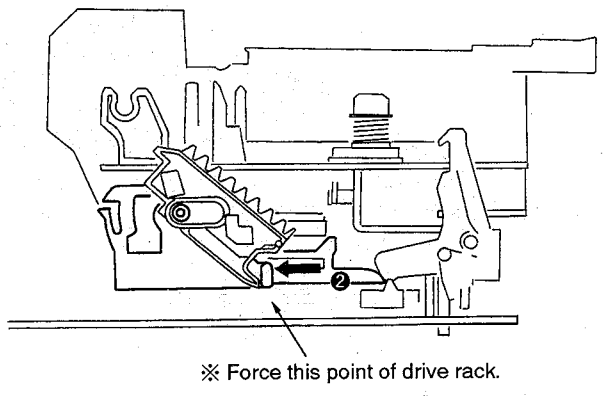
※ For DECK2 cassette holder ass'y, follow the same procedure as DECK1 cassette holder.

Installation of the cassette holder ass'y after replacement



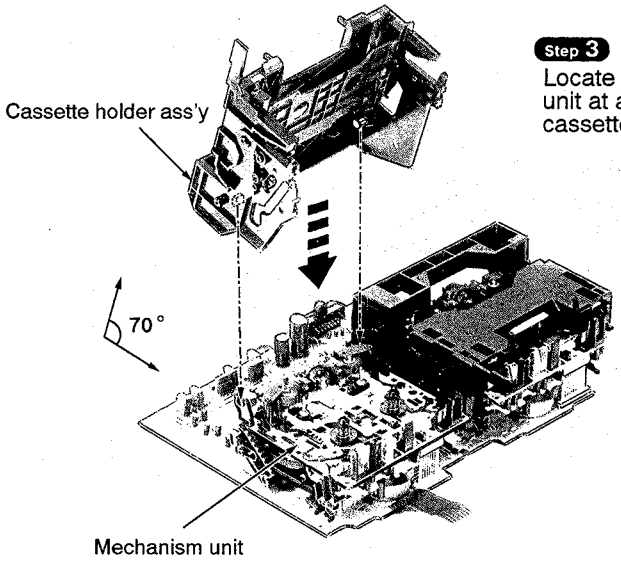
Step 1

Tilt the drive gear in the direction of arrow ❶.

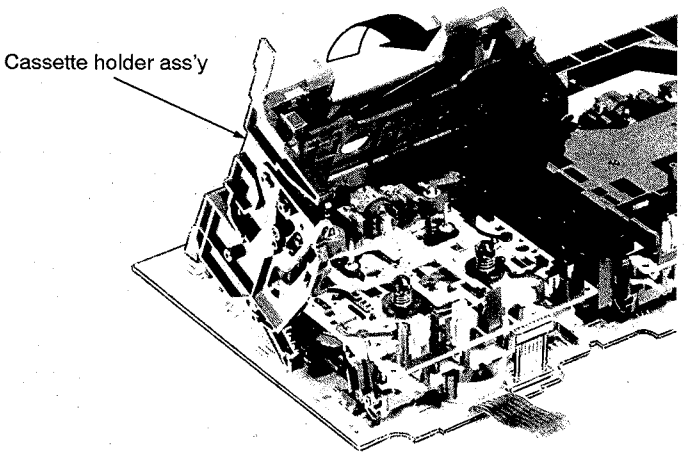


Step 2

Force the drive rack fully in the direction of arrow ❷.



Step 3
Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then install the cassette holder ass'y.

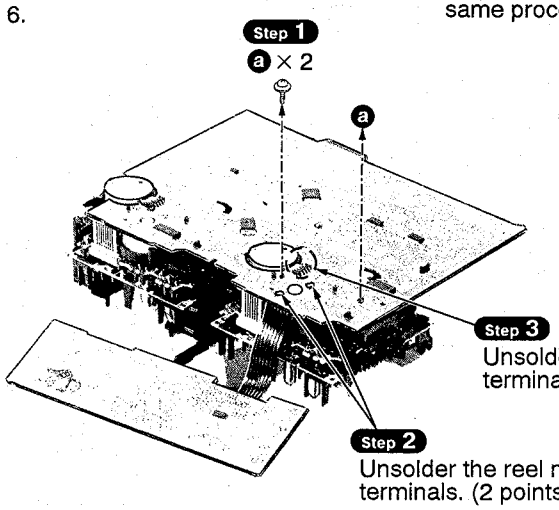


Step 4
Tilt the cassette holder ass'y in the direction of arrow, and then secure it to the mechanism ass'y.

2. Replacement for the belt, reel motor ass'y and capstan motor ass'y

- Follow the item 1 (Step 1 ~ Step 9) in checking procedure for each P.C.B. on pages 3 and 4.
- Follow the item 1 (Step 1 ~ Step 4) in main component replacement procedures on pages 5 and 6.

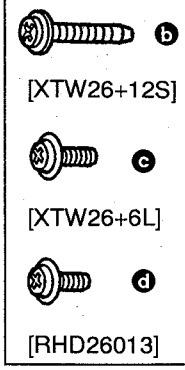
※ The below illustration shows DECK1 mechanism unit disassembly procedure. For DECK2 mechanism unit, follow the same procedure as DECK1.



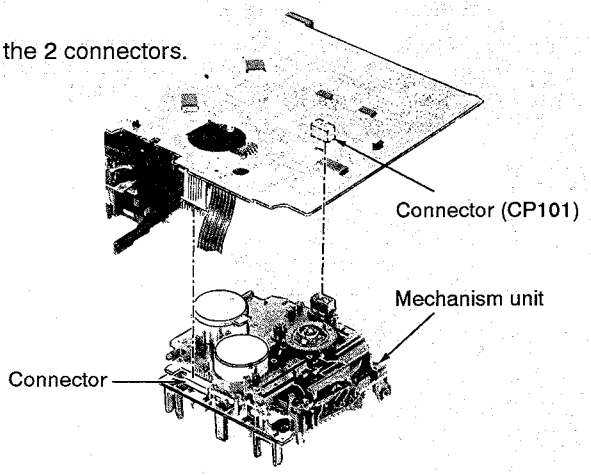
Step 3
Unsolder the capstan motor terminals. (4 points)

Step 2
Unsolder the reel motor terminals. (2 points)

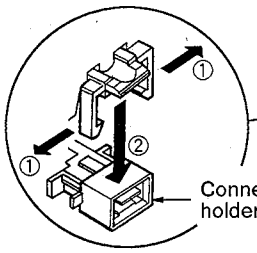
[XTW2+6S]

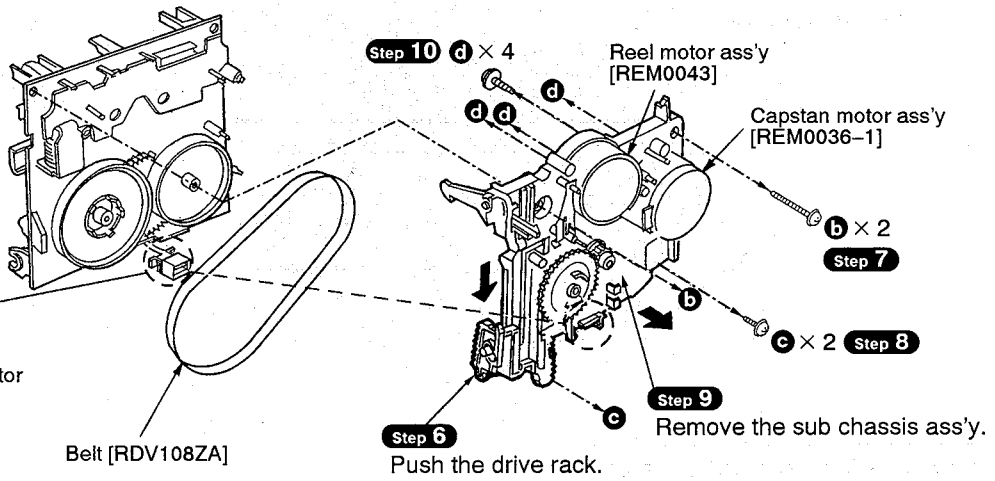


Step 4
Remove the 2 connectors.



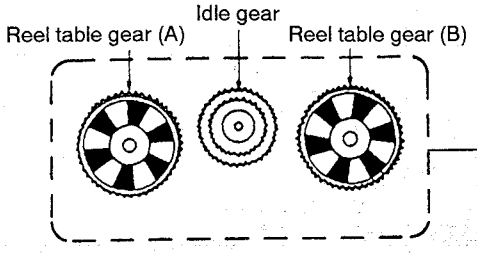
Step 5
Remove the connector holder.



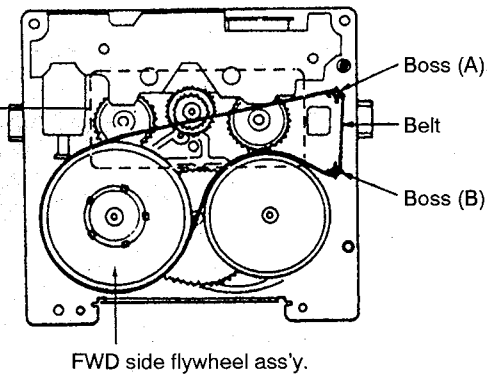


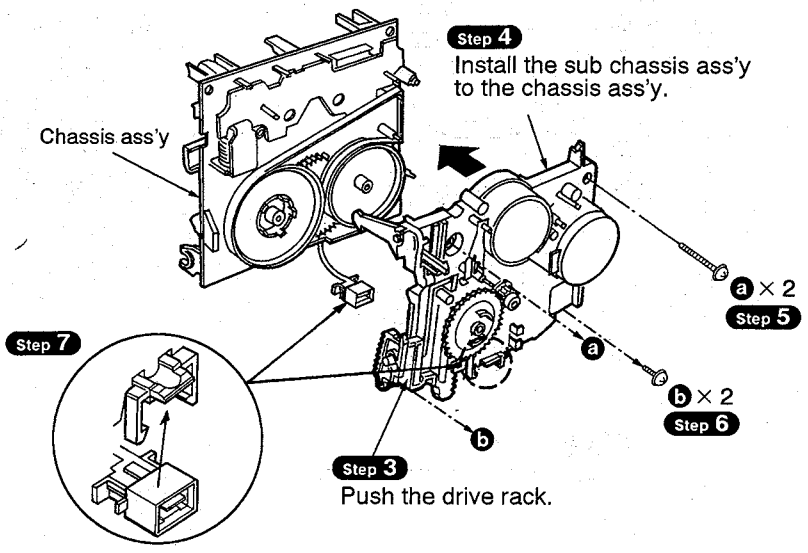
Installation of the sub chassis ass'y after replacement

Step 1
Place the idle gear in the center.



Step 2
Temporarily secure the belt.

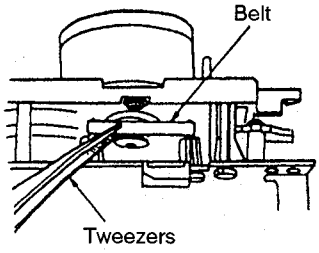


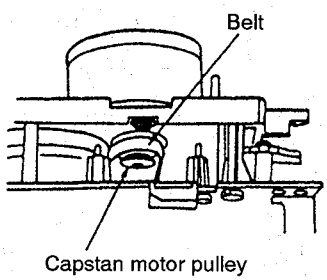


a [XTW26+12S]

b [XTW26+6L]

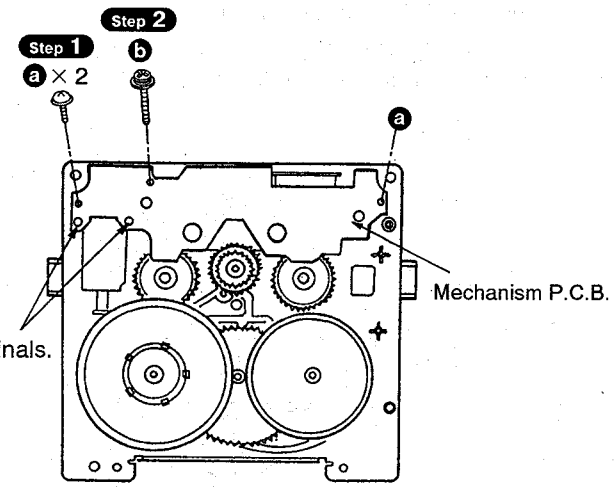
Step 8
Secure the belt with the capstan motor pulley.





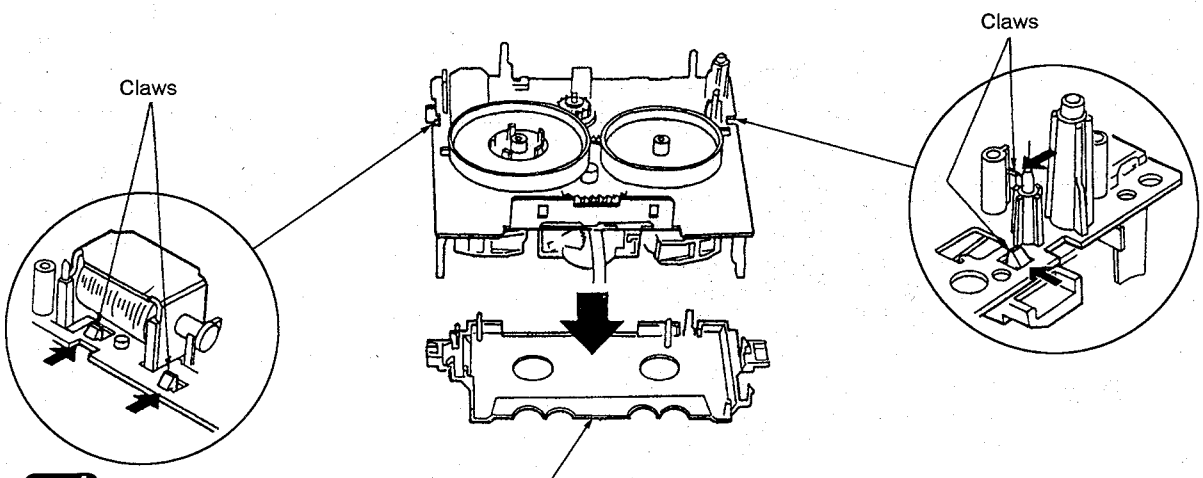
3. Replacement for the parts mounted on mechanism P.C.B. and solenoid

- Follow the item 1 (Step 1 ~ Step 9) in checking procedure for each P.C.B. on pages 3 and 4.
- Follow the item 1 (Step 1 ~ Step 4) in main component replacement procedures on pages 5 and 6.
- Follow the item 2 (Step 1 ~ Step 8) in main component replacement procedures on pages 7 and 8.



a [XTW2+6S]

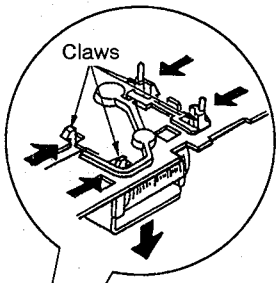
b [XYC2+JF16]



Step 4
Release the 4 claws.

Step 5
Remove the ornament plate.

Step 6
Release the 4 claws.

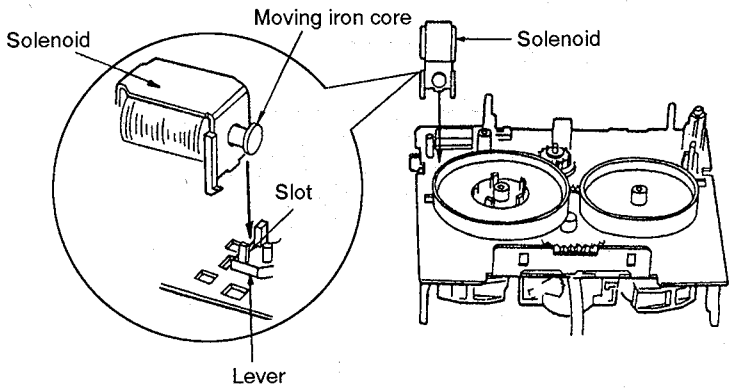


Step 7
Remove the solenoid [RSJ0003].

NOTE

Notice for installing the solenoid.

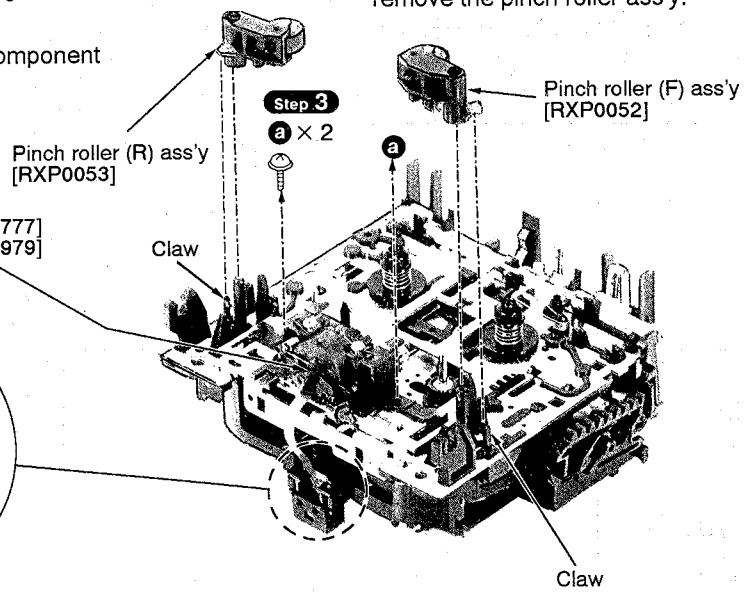
- The moving iron core of solenoid should be aligned with slot of lever.



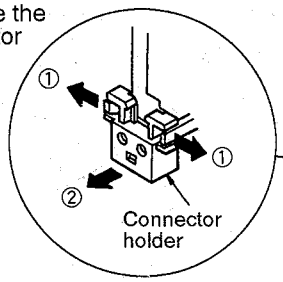
4. Replacement for the head block and pinch roller ass'y

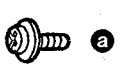
- Follow the item 1 (Step 1 ~ Step 9) in checking procedure for each P.C.B. on pages 3 and 4.
- Follow the item 1 (Step 1 ~ Step 4) in main component replacement procedures on pages 5 and 6.

Step 1
Release the 2 claws, and then remove the pinch roller ass'y.



Step 2
Remove the connector holder.





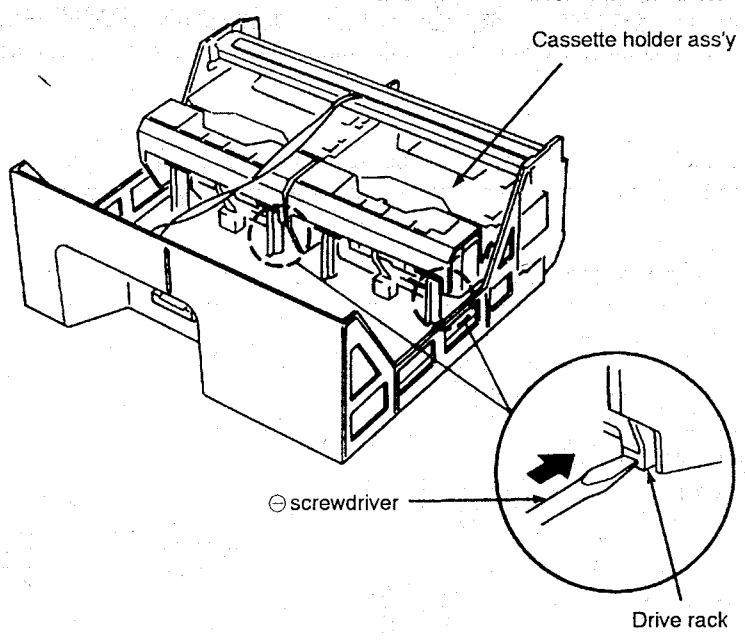
ⓐ [XTW2+5L]

• Manually opening and closing the cassette holder assembly

• Follow the item 1 (Step 1 ~ Step 4) in checking procedures for each P.C.B. on page 3.

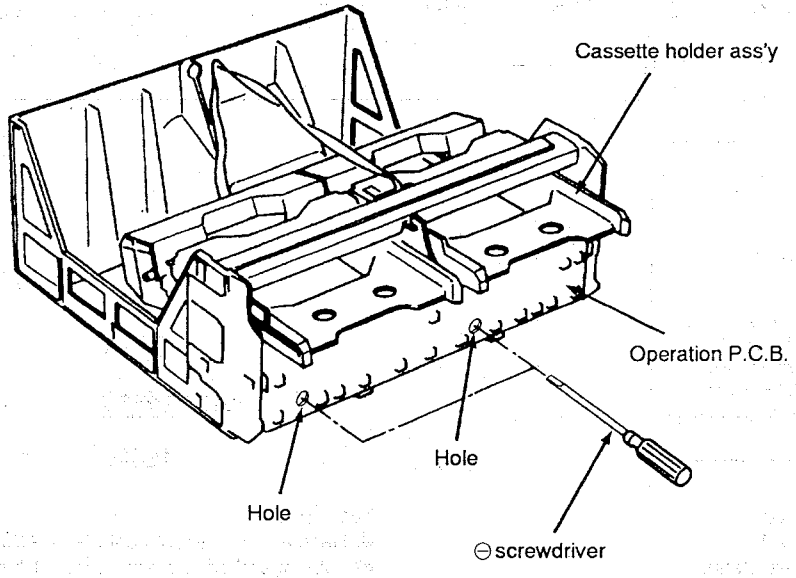
OPENING

Push the drive rack in the direction of the arrow with a ⊖screwdriver.



CLOSING

Push the drive rack back into position by inserting a ⊖screwdriver into the holes on the P.C.B.



■MEASUREMENTS AND ADJUSTMENTS

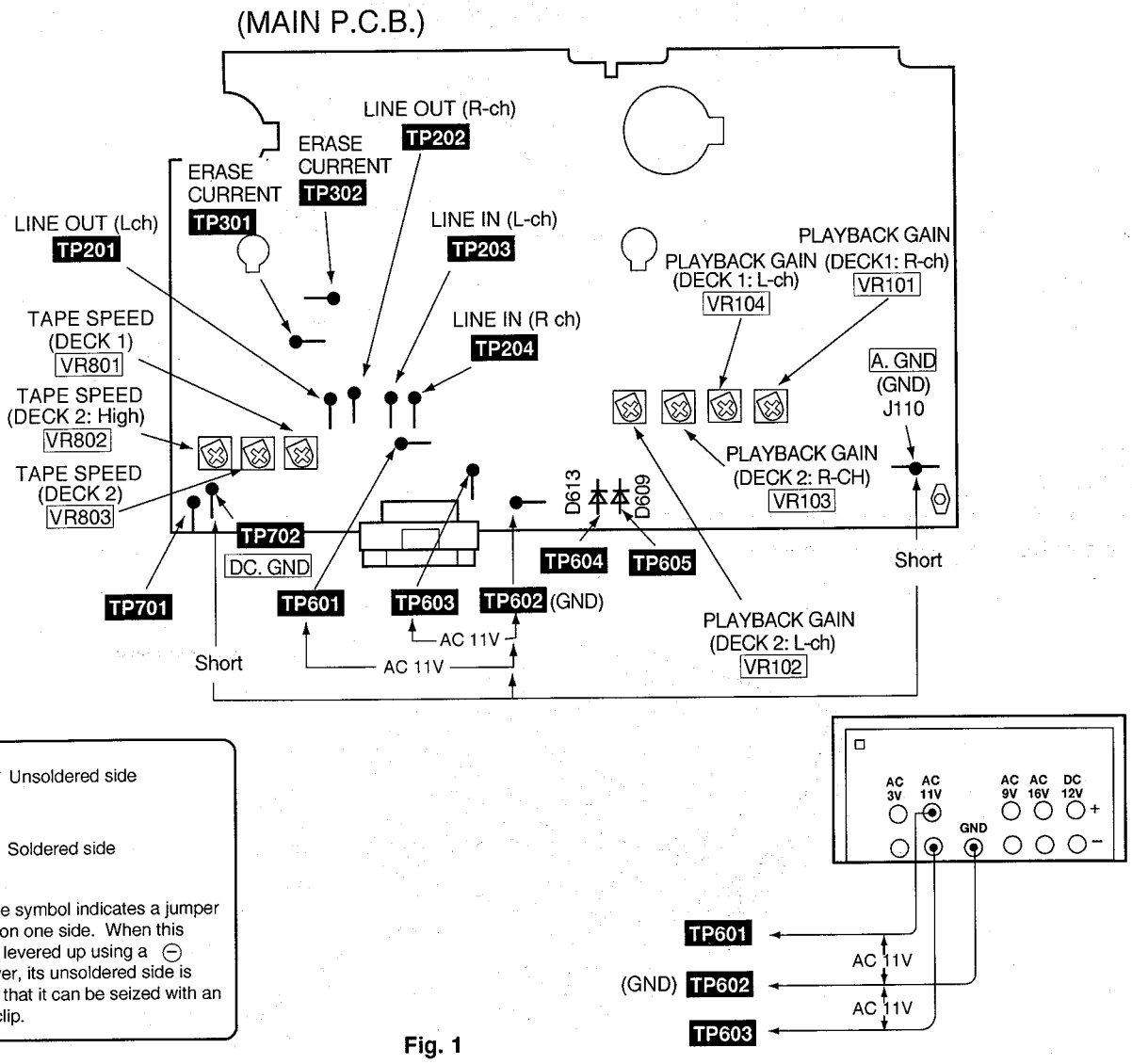
This unit RS-CA10 is designed to operate on power supplied from the Amplifier (SE-CA10) through Tuner (ST-CA10). When connecting the unit to other system components, do not connect to the Amplifier (SE-CA10) directly. Be sure to connect this unit through the Tuner (ST-CA10).
When operating the unit RS-CA10 alone for testing and servicing, without having power supplied from the Amplifier (SE-CA10) and Tuner (ST-CA10), use the following method.

● To Supply Power Source

1. Short three sections the test points **TP602**, [A. GND], and **TP702**.
2. Apply 11 AC power to test points between **TP601** and **TP602** (GND), and **TP603** and **TP602** (GND).
   Note: When operated alone, this unit automatically enter the TEST mode, causing either the DECK1 or DECK2 indicators to blink.

● To Check Signals

Connect an oscilloscope or a built-in amplifier speaker between line output for L-ch (**TP201**) and jumper (**J110**) [A. GND], and line out for R-ch (**TP202**) and jumper (**J110**) [A. GND] and check if the signals are outputting from this unit.



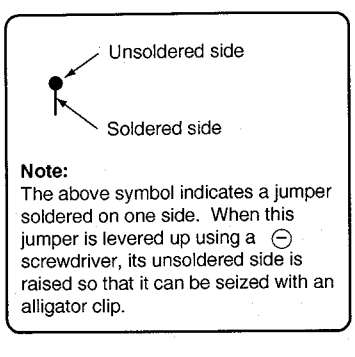

Unsoldered side
Soldered side
Note:
The above symbol indicates a jumper soldered on one side. When this jumper is levered up using a ⊖ screwdriver, its unsoldered side is raised so that it can be seized with an alligator clip.

Fig. 1

Measurement Condition
- Dolby NR switch; OFF
- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature 20 ± 5°C (68± 9°F)

Measuring instrument
- EVM (Electronic Voltmeter)
- AF oscillator
- Digital frequency counter

Test Tape
- Head azimuth adjustment (8kHz, –20dB); QZZCFM
- Tape speed adjustment (3kHz, –10dB); QZZCWAT
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Recording/ playback frequency response adjustment; QZZCFM (315Hz/0dB, 315Hz/–20dB, 12.5kHz~63Hz/–20dB)
  Normal blank tape
  CrO_2 blank tape
  Metal blank tape

HEAD AZIMUTH ADJUSTMENT (DECK1/2)

1. Connect the measuring instrument as shown in Fig. 2.
2. Replace azumuth screws for both forward and reverse direction after removing the screw-locking bond left on the head base.
   Fine adjustment of azimuth can not be performed with remaining the bond on the head base.
   (Supply part No. of azimath adjusting screw: **RHD17015**)
3. Playback the azimuth adjustment portion (8 kHz, –20dB) of test tape (QZZCFM). Adjust the azimuth adjusting screw until the outputs of the L/R-ch are maximized. (Refer to Fig. 3.)
   Make sure that the difference in the peak level between the left and right channels does not exceed 0.5dB.
4. Perform the same adjustment in reverse playback mode.

Check of the level difference forward and reverse directions

5. Playback the playback gain adjustment portion (315 Hz, 0dB) of test tape (QZZCFM). Check if level difference between forward and reverse direction is within 1.5 dB.
6. After the adjustment, apply screwlock to the azimuth adjusting screw.

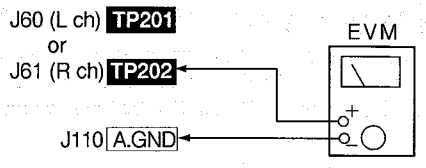


Fig. 2

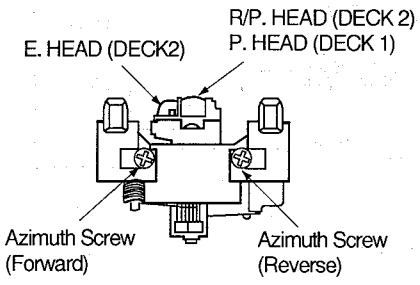


Fig. 3

TAPE SPEED ADJUSTMENT (DECK1/2)

Note: When connecting the unit to other system components for testing, short the section between the test points **TP701** and **TP702** and turn on the entire system. (The unit is set to the TEST mode, and either the DECK1 or DECK2 indicators will blink.)

Normal speed (Standard value: 3000 ± 45Hz)

1. Connect the measuring instrument as shown in Fig. 4.
2. Playback the middle portion of the test tape (QZZCWAT).
3. Adjust Deck1=**VR801** and Deck 2= **VR803** for the output value shown below. (Refer to Fig. 1)

Adjustment target: 3000 ± 15Hz (NORMAL speed) **Standard value: 3000 ± 45Hz (NORMAL speed)**

High speed [Set the unit to forward (FWD) mode.]

4. Playback the middle portion on the test tape (QZZCWAT).
5. Press the one touch tape edit (High) button.
   This will set the high speed mode.
6. At that time, check if the output from DECK1 is within the standard value.

Standard value: 5000 ± 600Hz (HIGH speed)

7. Adjust **VR802** so that the output frequency of DECK 2 is within ± **30 Hz** for the value of the output frequency of DECK 1. (Refer to Fig. 1)

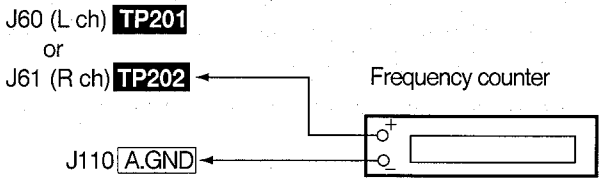


Fig. 4

Note: When connecting the unit to other system components, disconnect the short between the test points **TP701** and **TP702**.

PLAYBACK GAIN ADJUSTMENT (DECK 1/2)

1. Connect the measuring instrument as shown in Fig. 5.
2. Find the start of the 315Hz/0dB section of the test tape (QZZCFM), insert the tape into DECK 1 and 2, and play it back (FWD).
3. Adjust DECK 2: **VR102** (L-ch) [**VR103** (R-ch)] and DECK 1: **VR104** (L-ch) [**VR101** (R-ch)] so that the output is within the standard value. (Refer to Fig. 1).

Standard value: 280mV ± 15mV

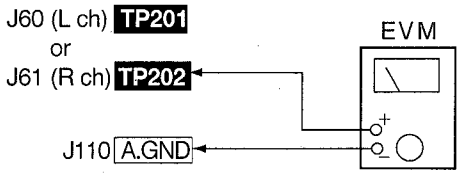


Fig. 5

ERASE CURRENT CONFIRMATION (DECK2)

1. Connect the measuring instrument as shown in Fig. 6.
2. Insert the blank tape into DECK 2, and press the REC PAUSE button.
3. Check if the output at this time between the erase current confirmation point TP301 and TP302 (the output on both edged of R313) is within the standard value.

Standard value		EVM reading
Normal tape	: 70 ± 25 mA	(70 ± 25 mA)
CrO_2 tape	: 100 ± 25 mA	(100 ± 25 mA)
Metal tape	: 160± 25 mA	(160 ± 25 mA)

Note: The test tape is not required when confirming the erase current.

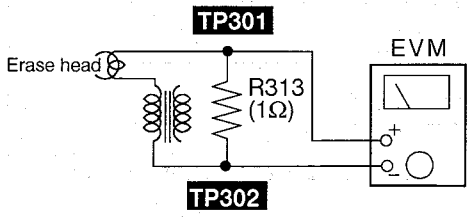


Fig. 6

Playback frequency response check (DECK1/2)

1. Connect the measuring instrument as shown in Fig. 7
2. Playback the 315Hz/–20dB and 12.5 kHz to 63 Hz/–20dB sections of the test tape (QZZCFM) and then, using the 315 Hz/–20dB playback output as a reference (0 dB), confirm that the playback frequency response is within the range shown in Fig. 8.

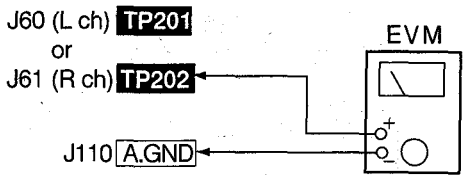


Fig. 7

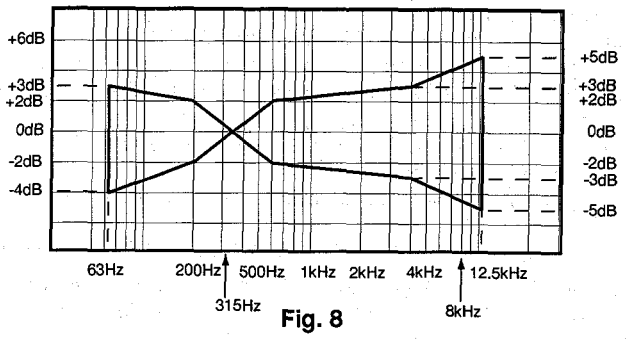


Fig. 8

Recordnig/playback frequency response and gain check (DECK2)

Normal tape check

1. Connect the measuring instrument as shown in Fig. 9.
2 Insert a Normal-type blank tape into DECK 2.
3. Record signals at 50 Hz, 100Hz, 200 Hz, 500 Hz, 1kHz, 2kHz, 10kHz and 12.5 kHz (28mV).
4. Set the playback frequency of the recorded signals at 1kHz as the reference response (0 dB).
5. Playback the recorded signals to confirm that the output is within the range of the overall frequency response shown in Fig. 10.

CrO_2/ Metal tape check

6. Repeat steps 3 to 5 for each tape and confirm that the output for each is within the range of the overall frequency response shown in Fig. 11.

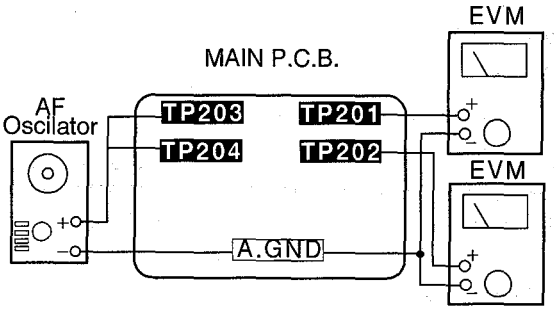


Fig. 9

Normal Overall frequency response chart (NR OUT)

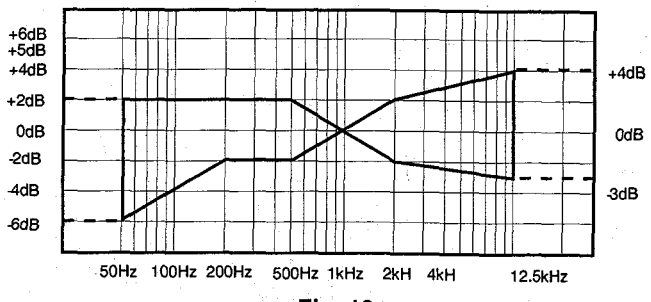


Fig. 10

CrO_2/Metal Overall frequency response chart (NR OUT)

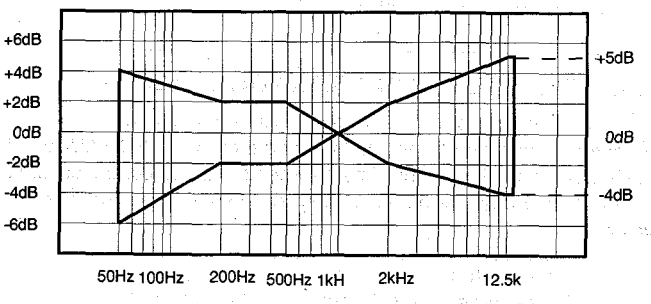


Fig. 11

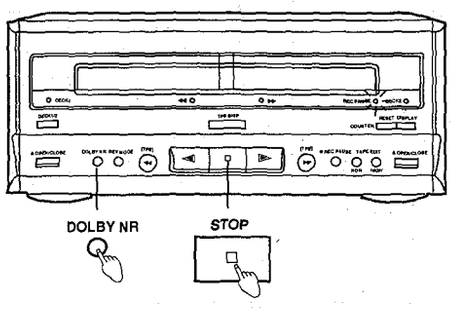
■SERVICE MODE FUNCTION OF CASSETTE MECHANISM

This unit is equipped with a service mode function of cassette mechanism using the LED indicators [R. PLAY (◀), F. PLAY (▶), REW (◀◀), FF(▶▶)]. Use this function during maintenance to check faults of the items below.

• Cassette tapes to be prepared

Metal tape: Recorded music tape with only one erase-prevention tab intact (use middle portion of the tape).

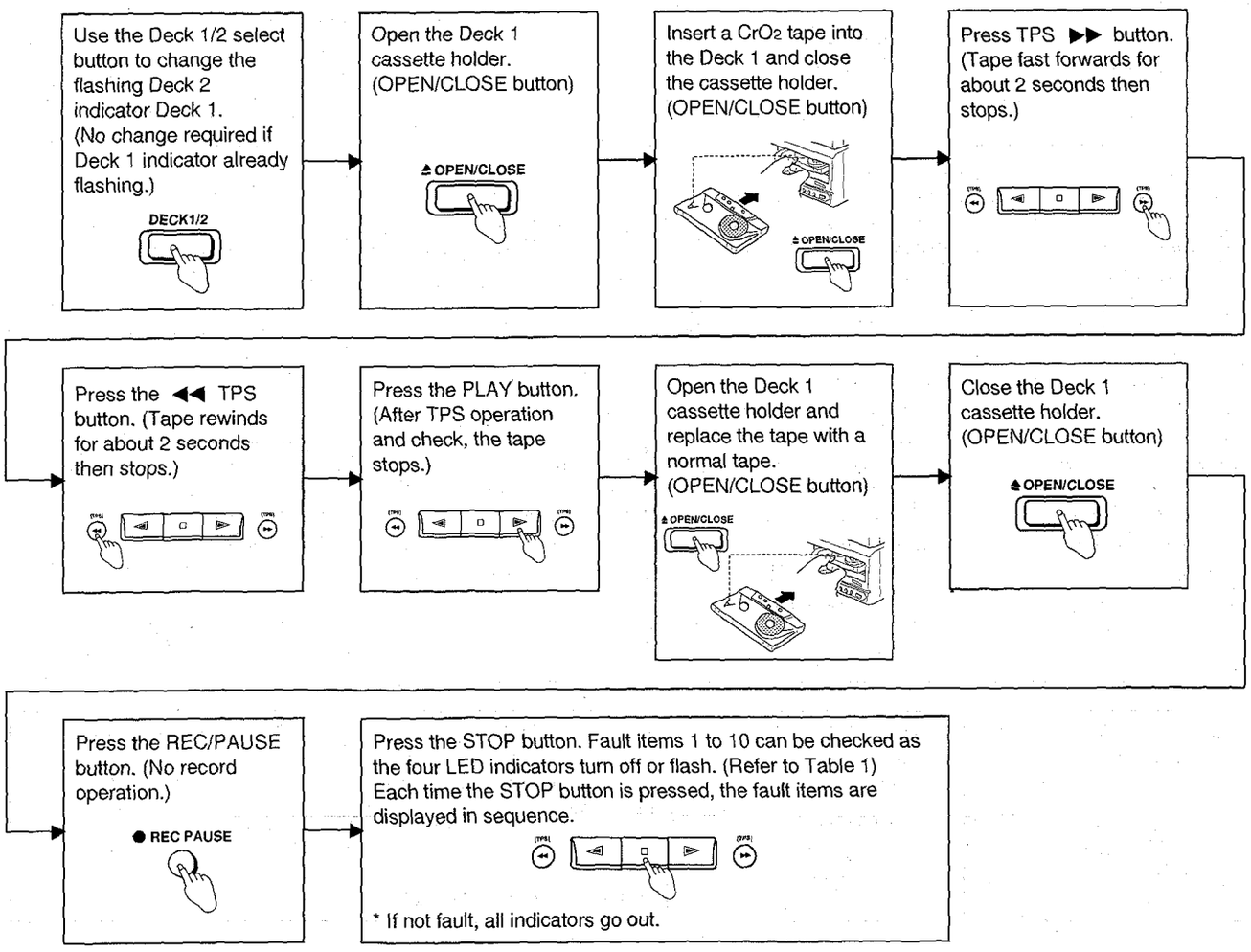
Normal tape: / CrO_2 tape: Recorded music tape with both erase-prevention tabs intact (use middle portion of the tape).



• Selecting Service Mode

1. Turn on the power to the unit. (If RS-CA10 unit is removed from system, turn it on according to the procedure on page 12 of the original service manual.)
2. Check that no tape is inserted in the cassette deck.
   Press the DOLBY NR button for about 2 seconds, and keep pressing it, also press the STOP button for about 2 seconds. (Service mode cannot be selected with a tape inserted in the cassette deck.)
3. The LED indicator for REC PAUSE flashes, the service mode has been activated.

• Deck 1 Mechanism Check


Use the Deck 1/2 select button to change the flashing Deck 2 indicator Deck 1. (No change required if Deck 1 indicator already flashing.)
DECK1/2
Open the Deck 1 cassette holder. (OPEN/CLOSE button)
≜OPEN/CLOSE
Insert a CrO_2 tape into the Deck 1 and close the cassette holder. (OPEN/CLOSE button)
≜OPEN/CLOSE
Press TPS ▶▶ button. (Tape fast forwards for about 2 seconds then stops.)
Press the ◀◀ TPS button. (Tape rewinds for about 2 seconds then stops.)
Press the PLAY button. (After TPS operation and check, the tape stops.)
Open the Deck 1 cassette holder and replace the tape with a normal tape. (OPEN/CLOSE button)
≜OPEN/CLOSE
Close the Deck 1 cassette holder. (OPEN/CLOSE button)
≜OPEN/CLOSE
Press the REC/PAUSE button. (No record operation.)
● REC PAUSE
Press the STOP button. Fault items 1 to 10 can be checked as the four LED indicators turn off or flash. (Refer to Table 1)
Each time the STOP button is pressed, the fault items are displayed in sequence.
* If not fault, all indicators go out.

No.	LED indicator status (off/flashing) ◀	▶	◀◀	▶▶	Fault location
1.	–	–	–	●	MODE detect switch
2.	–	–	●	–	REC prevention switch
3.	–	–	●	●	Half detect switch
4.	–	●	–	–	Deck OPEN switch
5.	–	●	–	●	Deck CLOSE switch
6.	–	●	●	–	CrO_2 tape detect switch
7.	–	●	●	●	Metal tape detect switch
8.	●	–	–	–	Reel pulse detect system (Hall IC, etc.)
9.	●	–	–	●	TPS operation
10.	●	–	●	–	Reel motor

Notes:
"●": Flashing
"–": off
* If no fault, all indicators go out.

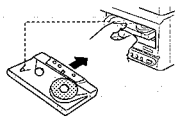
Table 1: Service Mode Diagnostic Items

• Deck 2 Mechanism Check

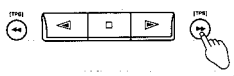
Use the Deck 1/2 select button to change the flashing Deck 1 indicator to Deck 2.

Open the Deck 2 cassette holder. (OPEN/CLOSE button)

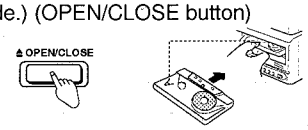
Insert a metal tape into the Deck 2 with an intact erase-prevention tab on the right side, and close the cassette holder. (OPEN/CLOSE button)



Press the TPS ▶▶ button. (Tape fast forwards for about 2 seconds then stops.)

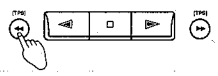


Open the Deck 2 cassette holder and turn over the metal tape (intact erase-prevention tab on the left side.) (OPEN/CLOSE button)

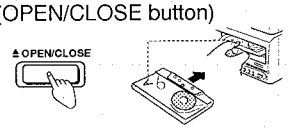


Close the Deck 2 cassette holder. (OPEN/CLOSE button)

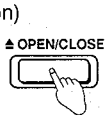
Press the ◀◀ TPS button. (Tape rewinds for about 2 seconds then stops.)



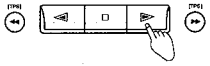
Open the Deck 2 cassette holder and replace the metal tape with a CrO_2 tape. (OPEN/CLOSE button)



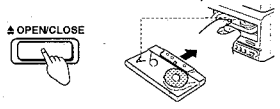
Close the Deck 2 cassette holder. (OPEN/CLOSE button)



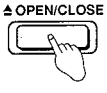
Press the PLAY button. (After TPS operation and check, the tape stop.)



Open the Deck 2 cassette holder and replace the CrO_2 tape with a normal tape. (OPEN/CLOSE button)

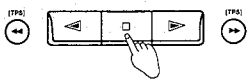


Close the Deck 2 cassette holder. (OPEN/CLOSE button)



Press the REC/PAUSE button. (No record operation.)

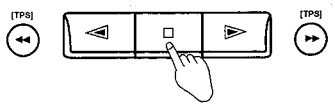
Press the STOP button. Fault items 1 to 10 can be checked as the four LED indicators turn off or flash. (Refer to Table 1)
Each time the STOP button is pressed, the fault items are displayed in sequence.



* If no fault, all indicators go out.

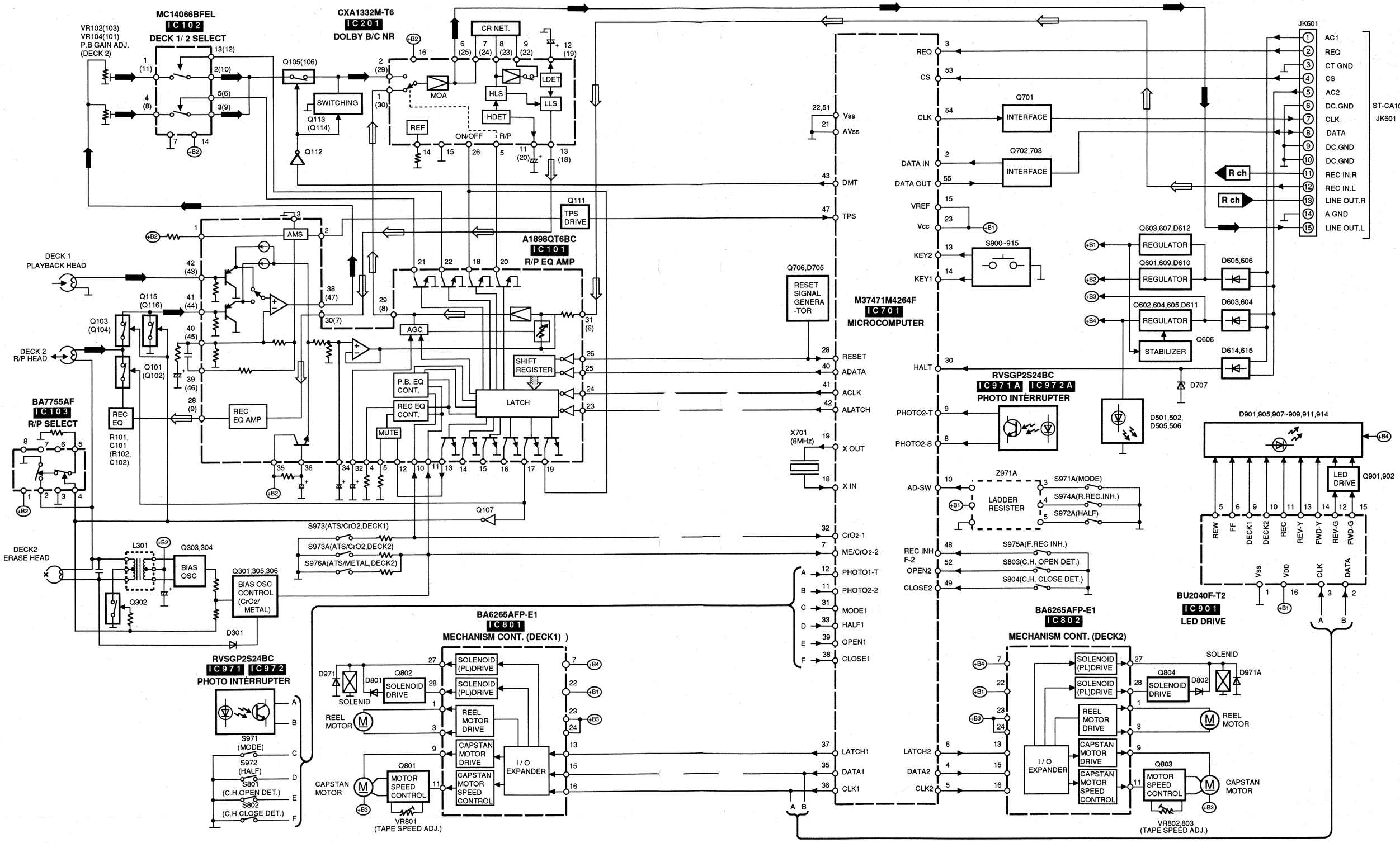
• Exiting-Self-Check Mode

1. Press the STOP button for more than 5 seconds. (Diagnostic contents stored in memory for both Deck 1 and 2 are erased.)
2. Remove the cassette tape from the cassette holder.
3. Turn off the unit.



■BLOCK DIAGRAM

• Signal line ➡ : Playback signal ⇨ : Recording signal ※ ( ) : indicates pin No. of right channel .



■SCHEMATIC DIAGRAM (Parts list on pages 30, 31, 36, 37.)

● This schematic diagram may be modified at any time with development of new technology.

Page

A MAIN CIRCUIT ..... 21～25
B MECHANISM CIRCUIT (DECK 1) 23
C MECHANISM CIRCUIT (DECK 2) 23
D OPERATION CIRCUIT 26
E LED CIRCUIT 26

Notes:

- **S801**: DECK 1 Cassette holder open detection switch in "off" position.
- **S802**: DECK 1 Cassette holder close detection switch in "off" position.
- **S803**: DECK 2 Cassette holder open detection switch in "off" position.
- **S804**: DECK 2 Cassette holder close detection switch in "off" position.
- **S900**: Stop (□) switch.
- **S901**: Dolby noise-reduction switch (DOLBY NR).
- **S902**: Rewind tape program sensor switch (◀◀ [TPS]).
- **S903**: Reverse-side playback switch (◁).
- **S904**: TPS skip switch (TPS SKIP).
- **S905**: Forward-side playback switch (▷).
- **S906**: Fast forward tape program sensor switch (▶▶ [TPS]).
- **S907, 908**: Tape edit switches (TAPE EDIT).
  [S907: NOR, S908: HIGH]
- **S909**: Rec pause switch (● REC PAUSE).
- **S910**: Deck 2 cassette holder open/ close switch (▲ OPEN/ CLOSE).
- **S911**: Counter display switch (DISPLAY).
- **S912**: Counter reset switch (RESET).
- **S913**: Deck 1/ Deck 2 select switch (DECK 1/2).
- **S914**: DECK 1 Cassette holder open/ close switch (▲ OPEN/ CLOSE).
- **S915**: Reverse-mode select switch (REV. MODE).
- **S971**: DECK 1 Mode switch in "off" position.
- **S971A**: DECK 2 Mode switch in "off" position.
- **S972**: DECK 1 Half switch in "off" position.
- **S972A**: DECK 2 Half switch in "off" position.
- **S973**: DECK 1 ATS (CrO_2) switch in "off" position.
- **S973A**: DECK 2 ATS (CrO_2) switch in "off" position.
- **S974A**: DECK 2 Reverse rec. inhibit switch in "off" position.
- **S975A**: DECK 2 Forward rec. inhibit switch in "off" position.
- **S976A**: DECK 2 ATS (Metal) switch in "off" position.

- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
  1K=1,000 (Ω), 1M=1,000 (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
  ( )....Voltage values at record mode.
  For measurement us EVM.
- Voltage values and waveforms are measured as indicated in the schematic diagram when test points between **TP604** and **TP605**, and between **A. GND** and **TP602** are shorted.
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- ▬▶▬ : Positive voltage line
  ▬▶ : Negative voltage line
  ▬▶ : Playback signal line
  ⟹ : Recording signal line

● Caution!

C and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

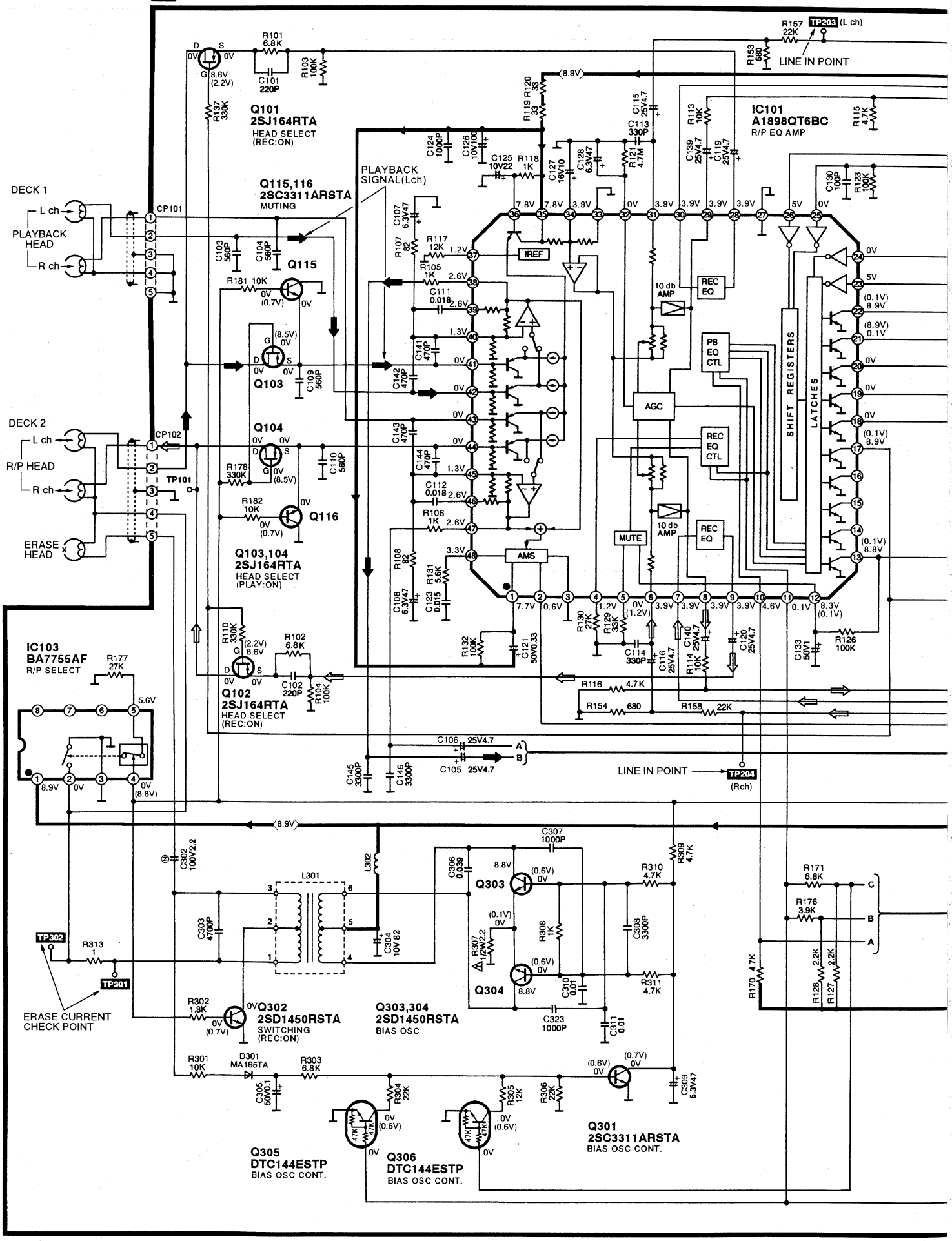
■TERMINAL GUIDE

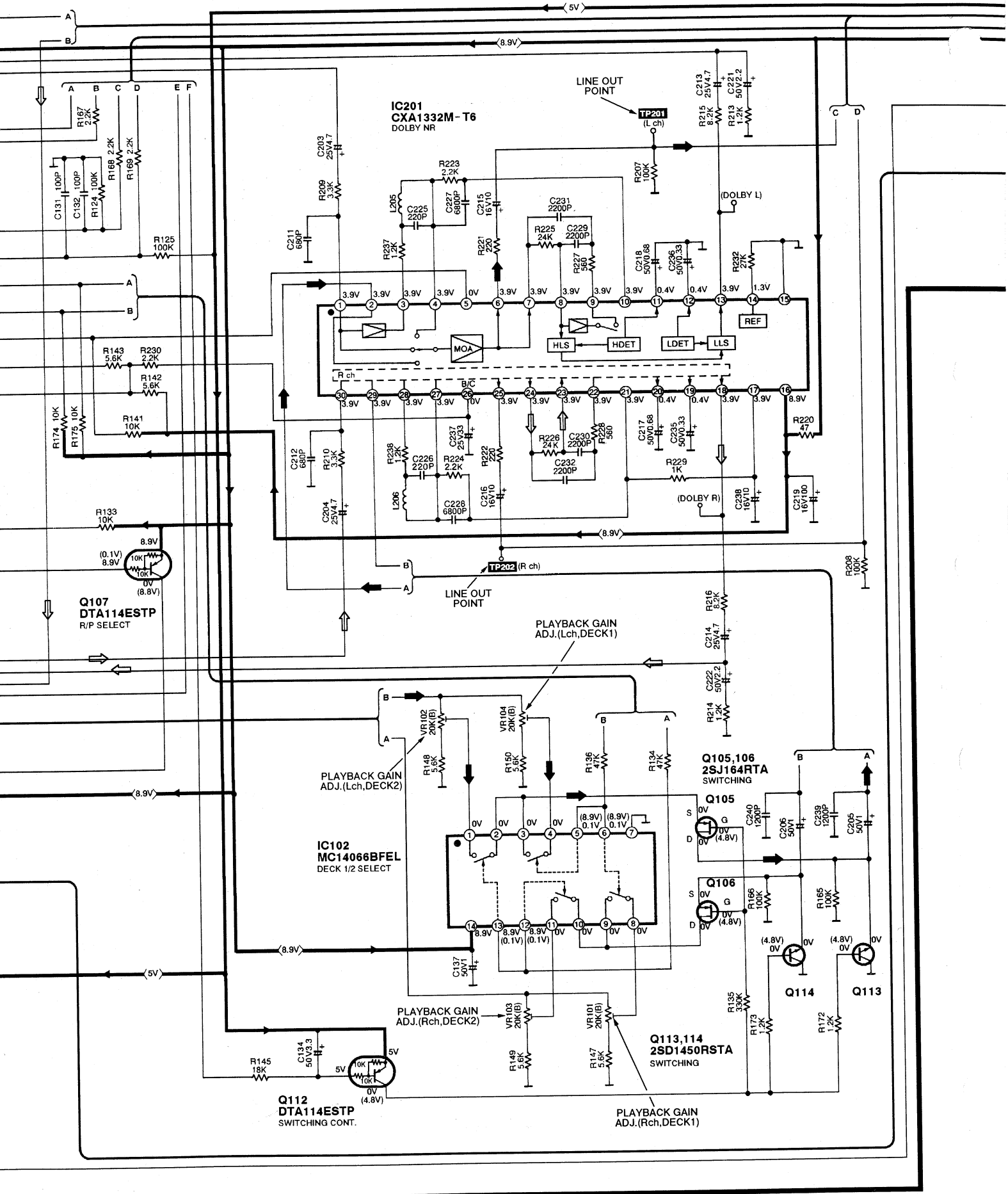
● IC701 (M37471M4264F): MICRO COMPUTER

Pin No.	Mark	I/O	Function
1	NC	–	Not used
2	DATA IN	I	Serial data input
3	REQ	I	Request signal input
4	DATA2	O	Deck 2 mechanism control data output
5	CLK2	O	Deck 2 mechanism control clock output
6	LATCH2	O	Deck 2 mechanism control latch signal output
7	ME/CrO_2-2	I	Deck 2 tape select switch input
8	PHOTO2_S	I	Deck 2 reverse side reel pulse input
9	PHOTO2_T	I	Deck 2 forward side reel pulse input
10	AD_SW	I	Deck 2 mechanism switch signal input
11	PHOTO1_S	I	Deck 1 reverse side reel pulse input
12	PHOTO2_T	I	Deck 1 forward side reel pulse input
13	KEY2	I	Key switch signal input
14	KEY1	I	
15	VREF	I	Reference voltage input
16	NC	–	Not used
17	NC	–	Not used
18	XIN	I	Clock input
19	XOUT	O	Clock output
20	NC	–	Not used
21	AVSS	–	Connect to GND
22	VSS	–	Connect to GND
23	VCC	–	Power supply (+5V)
24	NC	–	Not used
25	TEST	–	Test mode select (Not used, open)
26	CP_SEL1	–	Not used
27	NC	–	Not used
28	RESET	I	Reset signal input

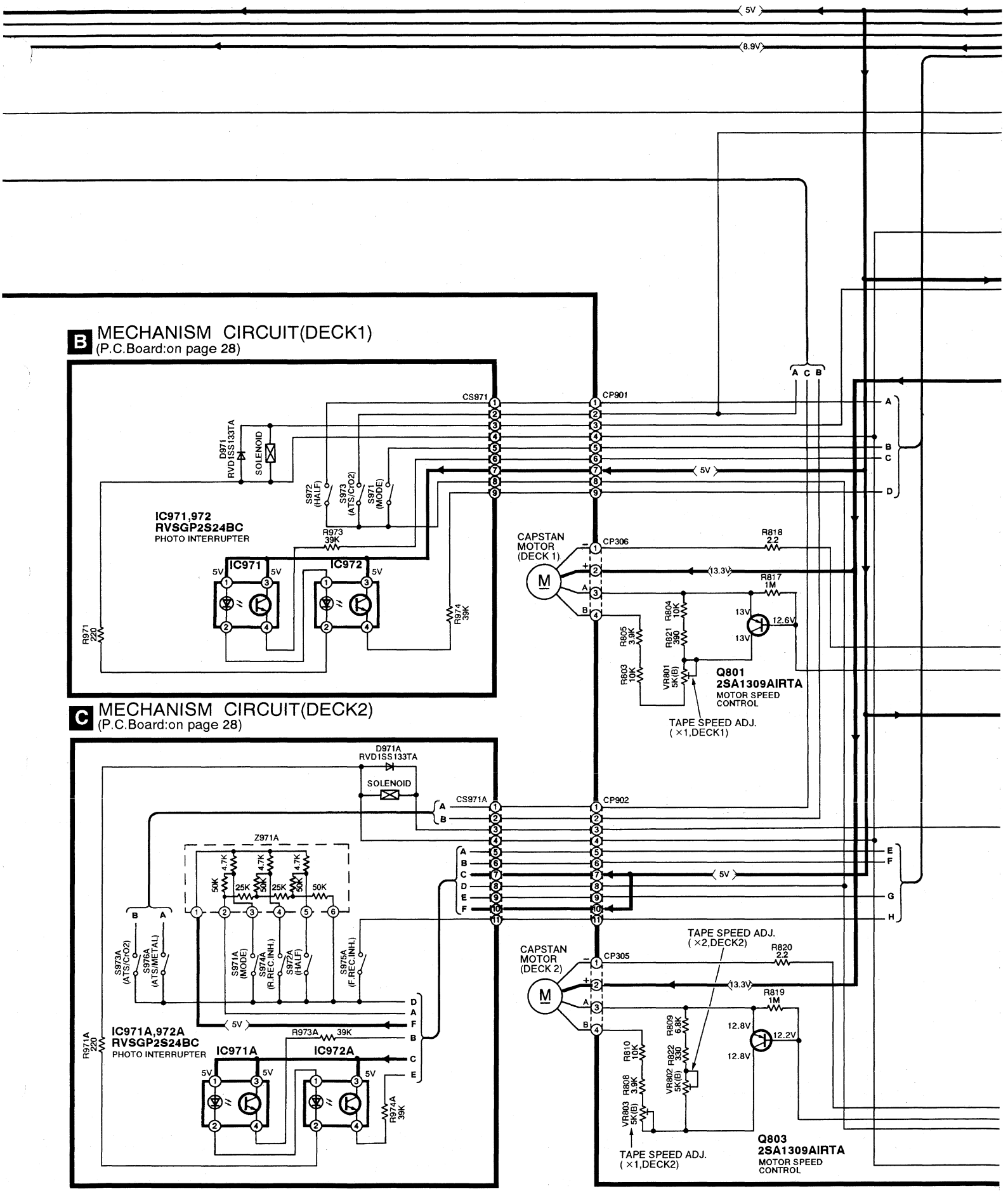
Pin No.	Mark	I/O	Function
29	NC	–	Not used
30	HALT	I	AC power source detect signal input
31	MODE1	I	Deck 1 mode detect switch signal input
32	ME/CrO2-1	I	Deck 1 tape select switch signal input
33	HALF1	I	Deck 1 Half detect switch signal input
34	NC	–	Not used
35	DATA1	O	Deck 1 control data output
36	CLK1	O	Deck 1 control clock output
37	LATCH1	O	Deck 1 mechanism control latch signal output
38	CLOSE1	I	Deck 1 cassette holder close detect switch signal input
39	OPEN1	I	Deck 1 cassette holder open detect switch signal input
40	A DATA	O	Serial data output
41	A CLK	O	Serial clock output
42	A LATCH	O	Latch signal output
43	DMT	O	Muting control signal output
44	NC	–	Not used
45	NC	–	Not used
46	CP_SEL2	–	Not used
47	TPS	I	TPS signal input
48	RECINH F_2	I	Deck 2 record prevention tab detect switch signal input
49	CLOSE2	I	Deck 2 cassette holder close detect switch signal input
50	NC	–	Not used
51	VSS	–	GND terminal
52	OPEN2	I	Deck 2 cassette holder open detect switch signal input
53	CS	I	Serial data control signal input
54	CLK	O	Serial clock output
55	DATA OUT	O	Serial data output
56	NC	–	Not used

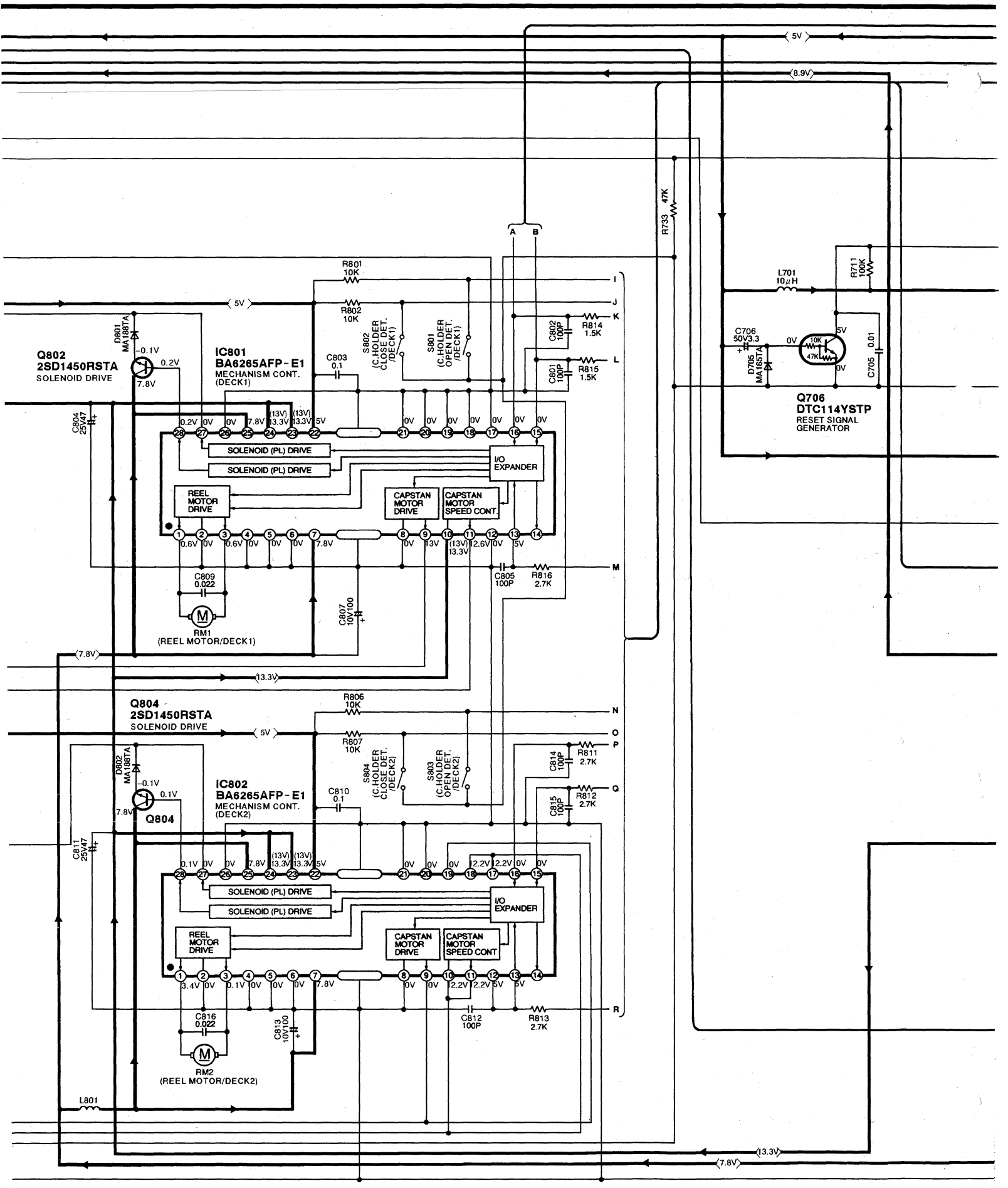
A MAIN CIRCUIT (P.C.Board:on page 27)



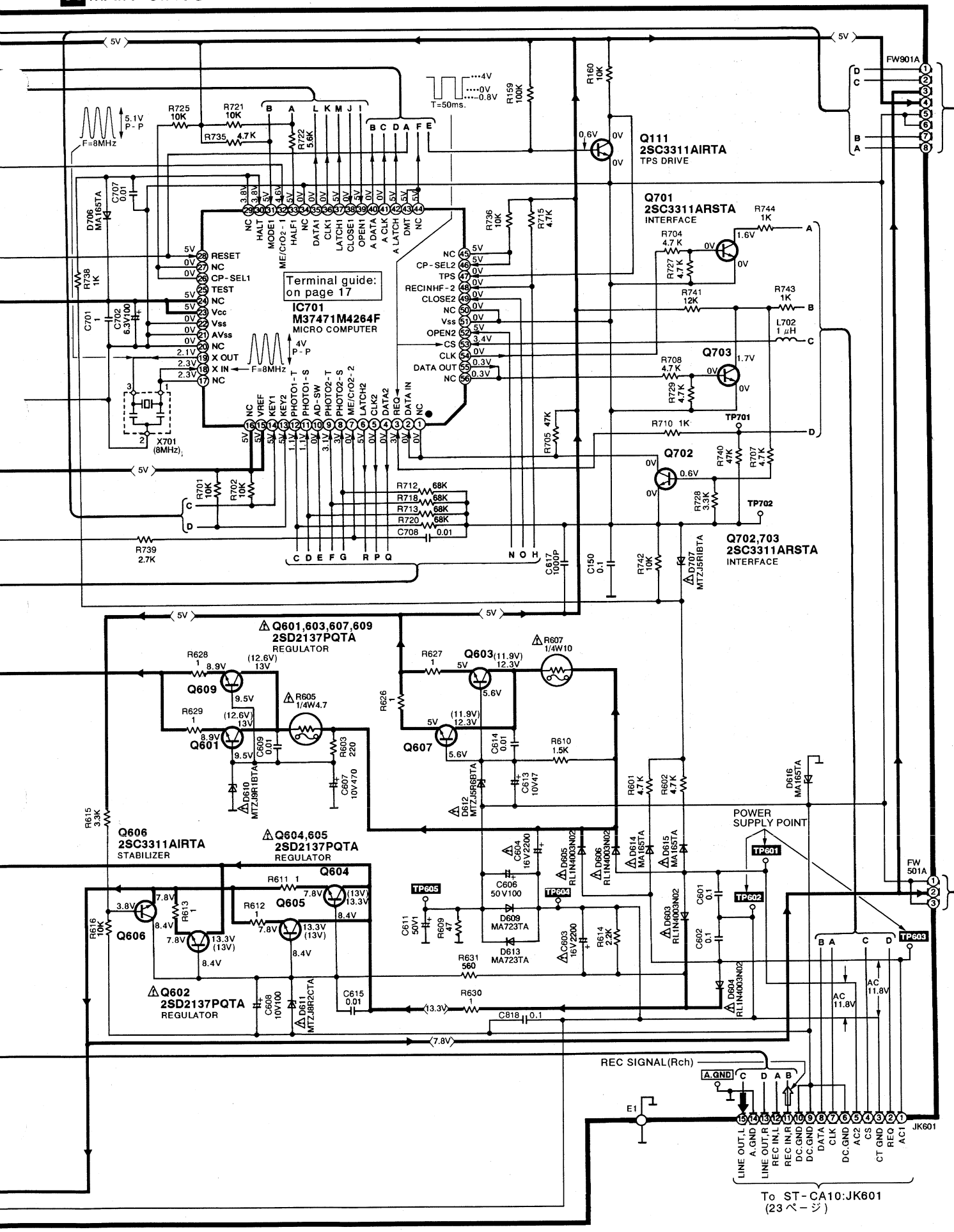

IC201
CXA1332M-T6
DOLBY NR
LINE OUT POINT
TP201 (L ch)
TP202 (R ch)
LINE OUT POINT
(DOLBY L)
(DOLBY R)
REF
HLS
HDET
LDET
LLS
MOA
Q107
DTA114ESTP
R/P SELECT
PLAYBACK GAIN ADJ.(Lch,DECK1)
PLAYBACK GAIN ADJ.(Lch,DECK2)
PLAYBACK GAIN ADJ.(Rch,DECK2)
PLAYBACK GAIN ADJ.(Rch,DECK1)
IC102
MC14066BFEL
DECK 1/2 SELECT
Q105,106
2SJ164RTA
SWITCHING
Q105
Q106
Q114
Q113
Q113,114
2SD1450RSTA
SWITCHING
Q112
DTA114ESTP
SWITCHING CONT.
8.9V
5V

A MAIN CIRCUIT (P.C.Board:on page 27)

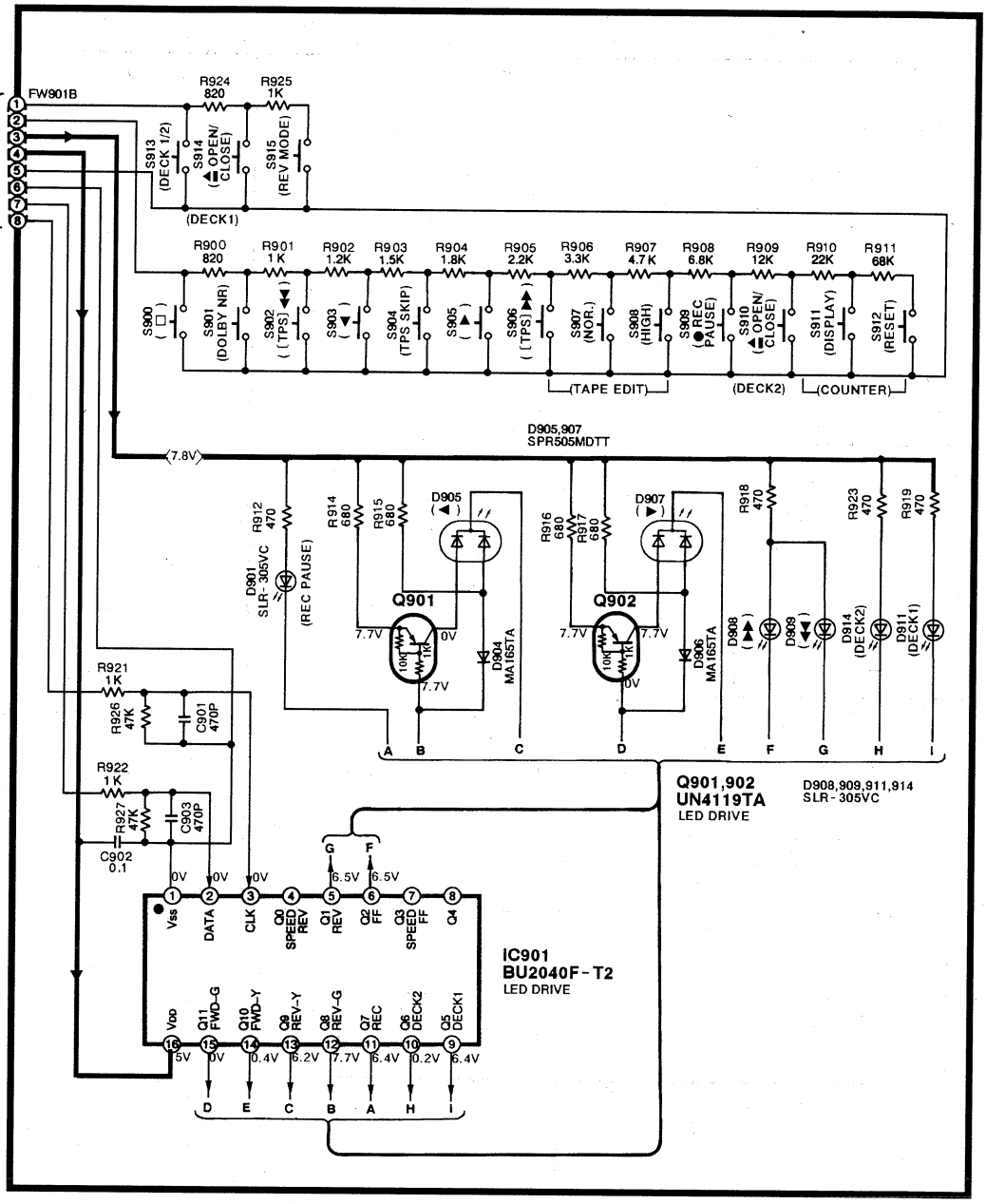



5V
8.9V
A
B
R733 47K
R801 10K
R802 10K
I
J
K
L
M
N
O
P
Q
R
L701 10μH
R711 100K
C706 50V3.3
D705 MA165TA
C705 0.01
Q706
DTC114YSTP
RESET SIGNAL GENERATOR
D801 MA188TA
Q802
2SD1450RSTA
SOLENOID DRIVE
IC801
BA6265AFP-E1
MECHANISM CONT.
(DECK1)
C803 0.1
S802 (C.HOLDER CLOSE DET. /DECK1)
S801 (C.HOLDER OPEN DET. /DECK1)
C802 100P
R814 1.5K
C801 100P
R815 1.5K
C804 25V47
SOLENOID (PL) DRIVE
SOLENOID (PL) DRIVE
I/O EXPANDER
REEL MOTOR DRIVE
CAPSTAN MOTOR DRIVE
CAPSTAN MOTOR SPEED CONT.
C809 0.022
C807 10V100
C805 100P
R816 2.7K
RM1
(REEL MOTOR/DECK1)
7.8V
13.3V
D802 MA188TA
Q804
2SD1450RSTA
SOLENOID DRIVE
IC802
BA6265AFP-E1
MECHANISM CONT.
(DECK2)
C810 0.1
S804 (C.HOLDER CLOSE DET. /DECK2)
S803 (C.HOLDER OPEN DET. /DECK2)
C814 100P
R811 2.7K
C815 100P
R812 2.7K
C811 25V47
SOLENOID (PL) DRIVE
SOLENOID (PL) DRIVE
I/O EXPANDER
REEL MOTOR DRIVE
CAPSTAN MOTOR DRIVE
CAPSTAN MOTOR SPEED CONT
C816 0.022
C813 10V100
C812 100P
R813 2.7K
RM2
(REEL MOTOR/DECK2)
L801
13.3V
7.8V

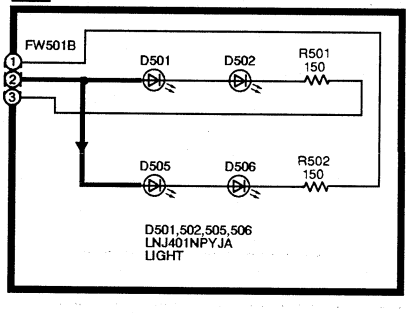
A MAIN CIRCUIT (P.C.Board:on page 27)



D OPERATION CIRCUIT (P.C.Board:on page 28)

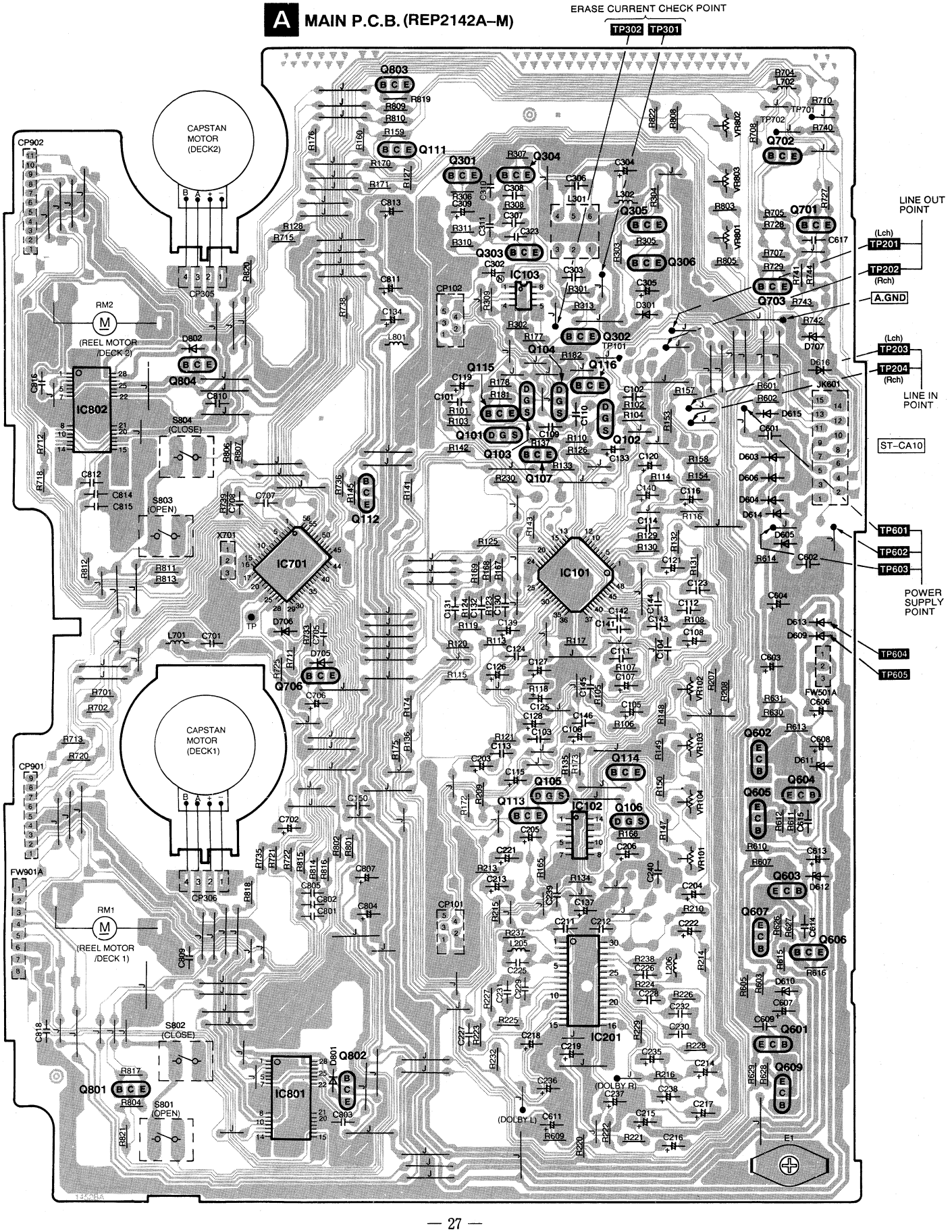


E LED CIRCUIT (P.C.Board:on page 28)

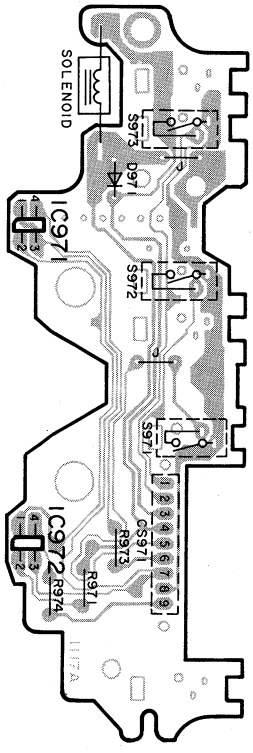


■PRINTED CIRCUIT BOARD DIAGRAM

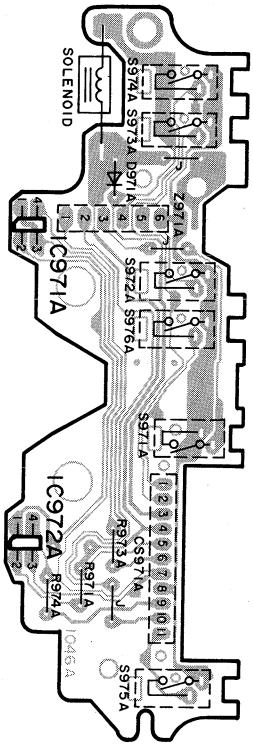
(This schematic diagram may be modified at any time with the development of new technology.)



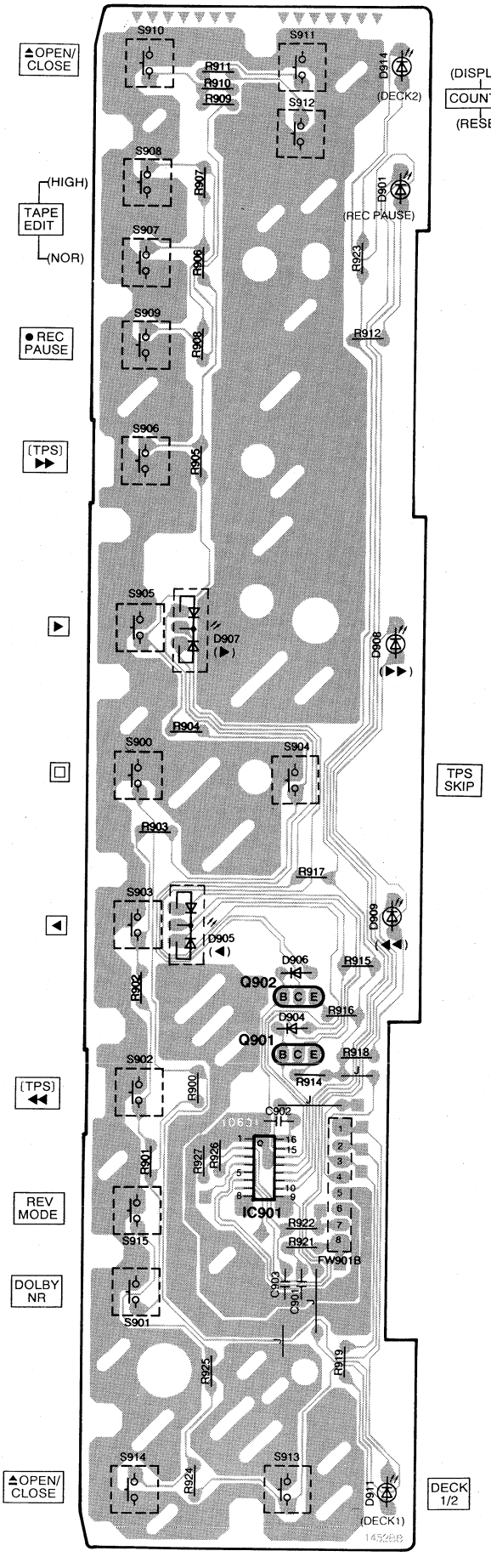
B MECHANISM P.C.B.(DECK1) (REP1655A)



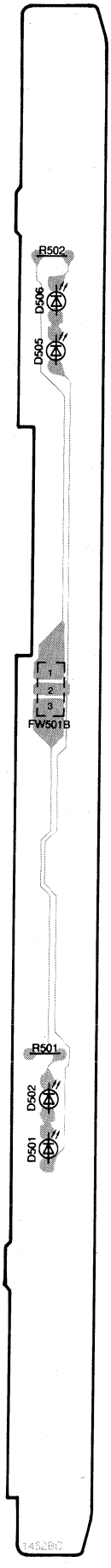
C MECHANISM P.C.B.(DECK2) (REP1656A)



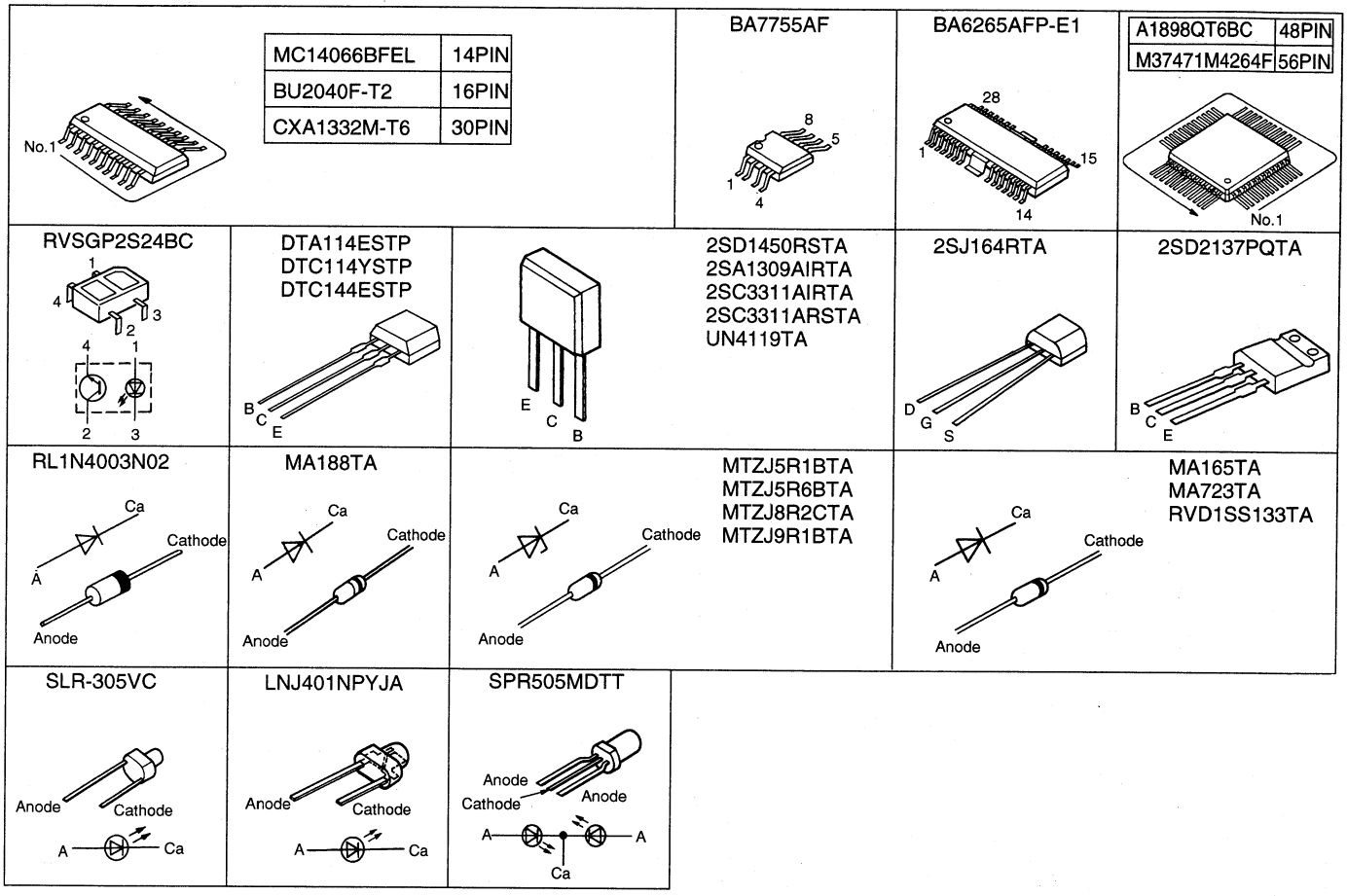
D OPERATION P.C.B. (REP2142A–M)



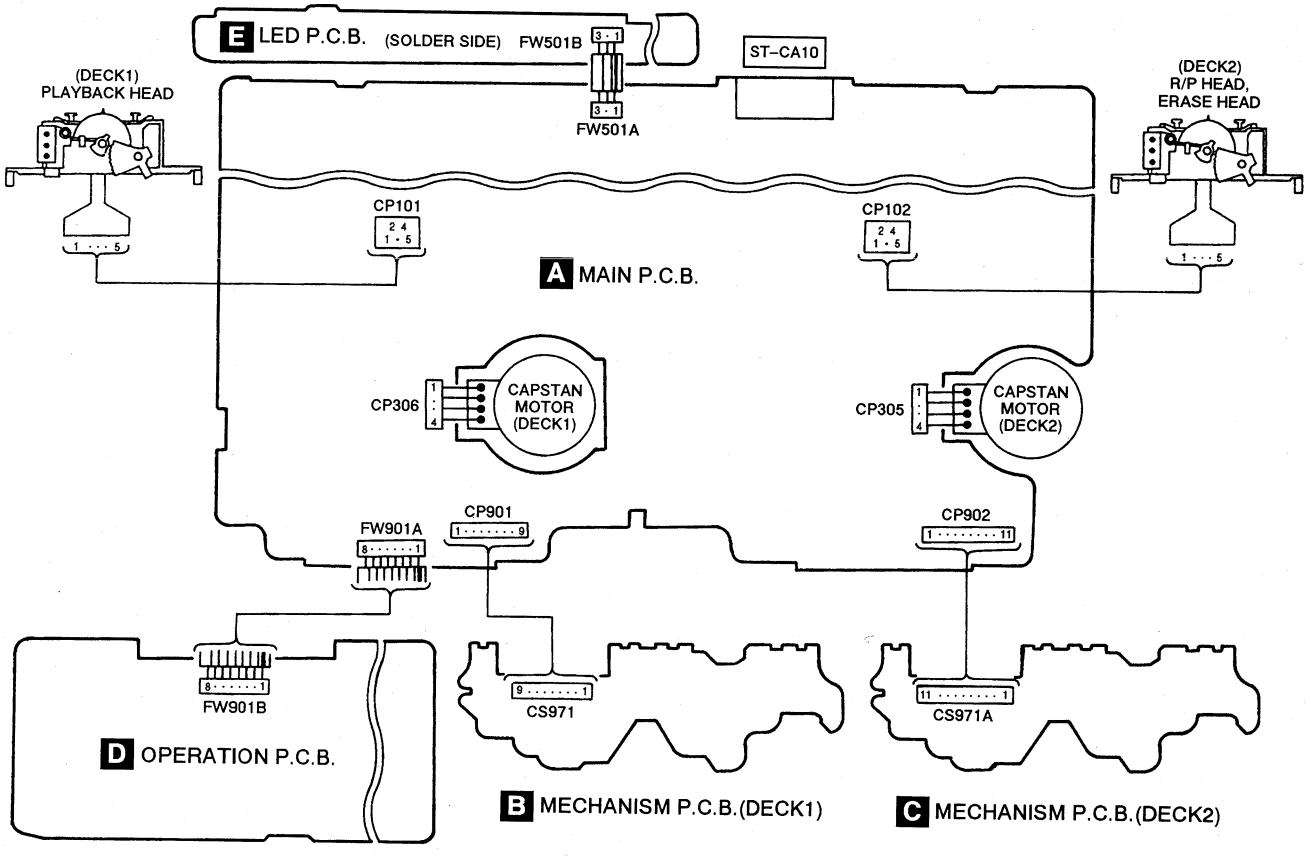
E LED P.C.B. (REP2142A–M)



• Terminal guide of IC's, transistors and diodes



■WIRING CONNECTION DIAGRAM



■REPLACEMENT PARTS LIST

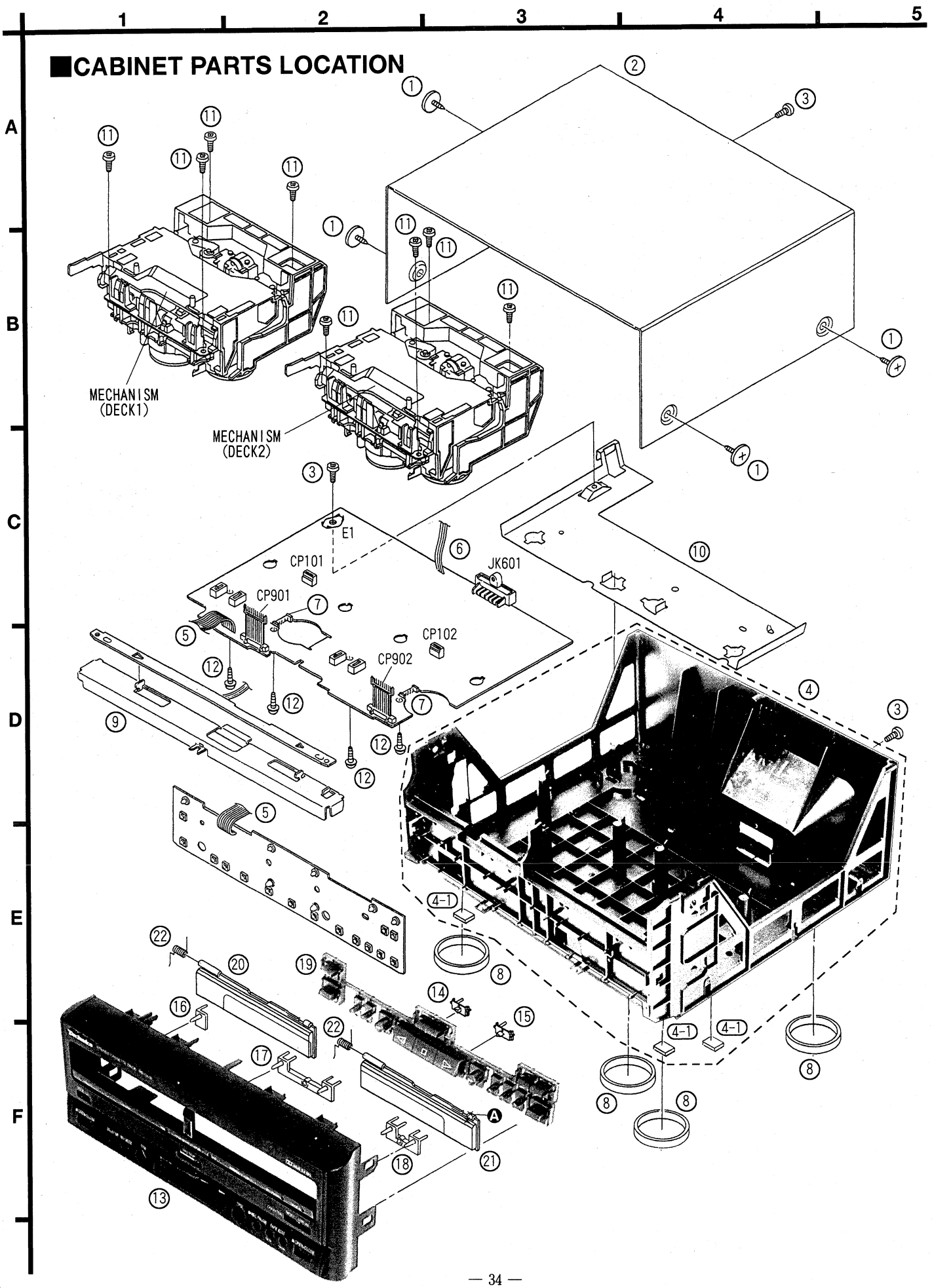
* **Notes:** * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* Remote Control Ass'y: Supply period for three years from termination of production.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC101	A1898QT6BC	R/P EQ AMP	
IC102	MC14066BFEL	DECK 1/2 SELECT	
IC103	BA7755AF	R/P SELECT	
IC201	CXA1332M-T6	DOLBY NR	
IC701	M37471M4264F	MICRO COMPUTER	
IC801, 802	BA6265AFP-E1	MECHANISM CONT. (DECK 1/2)	
IC901	BU2040F-T2	LED DRIVE	
IC971	RVSGP2S24BC	PHOTO INTERRUPTER(DECK1)	
IC971A	RVSGP2S24BC	PHOTO INTERRUPTER(DECK2)	
IC972	RVSGP2S24BC	PHOTO INTERRUPTER(DECK1)	
IC972A	RVSGP2S24BC	PHOTO INTERRUPTER(DECK2)	
		TRANSISTOR(S)	
Q101-106	2SJ164RTA	TRANSISTOR	
Q107	DTA114ESTP	TRANSISTOR	
Q111	2SC3311AIRTA	TRANSISTOR	
Q112	DTA114ESTP	TRANSISTOR	
Q113, 114	2SD1450RSTA	TRANSISTOR	
Q115, 116	2SC3311ARSTA	TRANSISTOR	
Q301	2SC3311ARSTA	TRANSISTOR	
Q302-304	2SD1450RSTA	TRANSISTOR	
Q305, 306	DTC144ESTP	TRANSISTOR	
Q601-605	2SD2137PQTA	TRANSISTOR	⚠
Q606	2SC3311AIRTA	TRANSISTOR	
Q607	2SD2137PQTA	TRANSISTOR	⚠
Q609	2SD2137PQTA	TRANSISTOR	⚠
Q701-703	2SC3311ARSTA	TRANSISTOR	
Q706	DTC114YSTP	TRANSISTOR	
Q801	2SA1309AIRTA	TRANSISTOR	
Q802	2SD1450RSTA	TRANSISTOR	
Q803	2SA1309AIRTA	TRANSISTOR	
Q804	2SD1450RSTA	TRANSISTOR	
Q901, 902	UN4119	TRANSISTOR	
		DIODE(S)	
D301	MA165	DIODE	
D501, 502	LNJ401NPYJA	L. E. D	
D505, 506	LNJ401NPYJA	L. E. D	
D603-606	RL1N4003N02	DIODE	⚠
D609	MA723TA	DIODE	
D610	MTZJ9R1BTA	DIODE	⚠
D611	MTZJ8R2CTA	DIODE	⚠

Ref. No.	Part No.	Part Name & Description	Remarks
D612	MTZJ5R6BTA	DIODE	⚠
D613	MA723TA	DIODE	
D614, 615	MA165	DIODE	⚠
D616	MA165	DIODE	
D705, 706	MA165	DIODE	
D707	MTZJ5R1BTA	DIODE	⚠
D801, 802	MA188TA	DIODE	
D901	SLR-305VC	L. E. D.	
D904	MA165	DIODE	
D905	SPR505MDTT	L. E. D.	
D906	MA165	DIODE	
D907	SPR505MDTT	L. E. D.	
D908, 909	SLR-305VC	L. E. D.	
D911	SLR-305VC	L. E. D.	
D914	SLR-305VC	L. E. D.	
D971	RVD1SS133TA	DIODE (DECK1)	
D971A	RVD1SS133TA	DIODE (DECK2)	
		VARIABLE RESISTOR(S)	
VR101	EVNDXAA00B24	P. B. GAIN ADJ. (DECK1) (R)	
VR102	EVNDXAA00B24	P. B. GAIN ADJ. (DECK2) (L)	
VR103	EVNDXAA00B24	P. B. GAIN ADJ. (DECK2) (R)	
VR104	EVNDXAA00B24	P. B. GAIN ADJ. (DECK1) (L)	
VR801	EVNDXAA00B53	TAPE SPEED ADJ. (DECK1:X1)	
VR802	EVNDXAA00B53	TAPE SPEED ADJ. (DECK2:X2)	
VR803	EVNDXAA00B53	TAPE SPEED ADJ. (DECK2:X1)	
		COIL(S)	
L205, 206	ELELN103KA	COIL	
L301	RL08C006M-T	COIL	
L302	RLQZB101KT-D	COIL	
L701	RLQA100JT-Y	COIL	
L702	ELEXT1R0KA9	COIL	
L801	RLL500050T-Y	COIL	
		OSCILLATOR(S)	
X701	EF0EC8004T4	OSCILLATOR (8MHz)	
		COMBINATION PART(S)	
Z971A	EXBF6L306SYV	COMBINATION PART	
		SWITCH(ES)	

Ref. No.	Part No.	Part Name & Description	Remarks
S801	RSH1A024-U	OPEN DET. (DECK1)	
S802	RSH1A024-U	CLOSE DET. (DECK1)	
S803	RSH1A024-U	OPEN DET. (DECK2)	
S804	RSH1A024-U	CLOSE DET. (DECK2)	
S900	EVQ21405R	STOP	
S901	EVQ21405R	DOLBY NR	
S902	EVQ21405R	REW(TPS)	
S903	EVQ21405R	R. PLAY	
S904	EVQ21405R	TPS SKIP	
S905	EVQ21405R	F. PLAY	
S906	EVQ21405R	F. F. (TPS)	
S907	EVQ21405R	NOR(TAPE EDIT)	
S908	EVQ21405R	HIGH(TAPE EDIT)	
S909	EVQ21405R	REC PAUSE	
S910	EVQ21405R	OPEN/CLOSE(DECK2)	
S911	EVQ21405R	DISPLAY(COUNTER)	
S912	EVQ21405R	RESET(COUNTER)	
S913	EVQ21405R	DECK 1/2 SELECT	
S914	EVQ21405R	OPEN/CLOSE(DECK1)	
S915	EVQ21405R	REV MODE	
S971	RSH1A018-1U	MODE DET. (DECK1)	
S971A	RSH1A018-1U	MODE DET. (DECK2)	
S972	RSH1A019-2U	HALF DET. (DECK1)	
S972A	RSH1A019-2U	HALF DET. (DECK2)	
S973	RSH1A019-2U	ATS/CrO2(DECK1)	
S973A	RSH1A019-2U	ATS/CrO2(DECK2)	
S974A	RSH1A019-2U	R. REC. INH. (DECK2)	
S975A	RSH1A019-2U	F. REC. INH. (DECK2)	
S976A	RSH1A019-2U	ATS/METAL(DECK2)	
		CONNECTOR(S) AND SOCKET(S)	
CP101, 102	RJS2A0205-2S	CONNECTOR(5P)	
CP901	RJT071H09A	CONNECTOR(9P)	
CP902	RJT071H11A	CONNECTOR(11P)	
CS971	RJU071H09M	SOCKET(9P)(DECK1)	
CS971A	RJU071H11M	SOCKET(11P)(DECK2)	
JK601	RJT065K15	CONNECTOR(15P)	
		EARTH PLATE(S)	
E1	SNE1004-2	EARTH PLATE	

■CABINET PARTS LOCATION



■REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RHD30007-K1	SCREW	
2	RKM0290-K	CABINET	
3	XTBS3+8JFZ1	SCREW	
4	RFKJSCA10E-K	FRAME ASS'Y	
4-1	SHG1654	RUBBER FOOT	
5	RWJ1808090KK	FLAT CABLE(8P) (W901)	
6	RWJ1803340KK	FLAT CABLE(3P) (FW501)	
7	RJR0113	CONNECTOR(4P) (CP305, CP306)	
8	RKA0068-N	SET FOOT	
9	RMA0858	REINFORCING ANGLE	
10	RSC0414	SHIELD PLATE	
11	XTB3+10JFZ	SCREW	
12	XTW2+6S	SCREW	
13	RFKGSCA10E-K	FRONT PANEL ASS'Y	
14	RGL0277-Q	PLAY LIGHT PLATE(L)	
15	RGL0278-Q	PLAY LIGHT PLATE(R)	
16	RGL0316-Q	PANEL LIGHT(A)	
17	RGL0317-Q	PANEL LIGHT(B)	
18	RGL0318-Q	PANEL LIGHT(C)	
19	RGU1347-1S	OPERATION BUTTON	
20	RKW0434-K	CASSETTE DOOR(L)	
21	RKW0435-K	CASSETTE DOOR(R)	
22	RMB0398	CASSETTE DOOR SPRING	
		MECHANISM PARTS	
201	RXF0045	FLYWHEEL(F) ASS'Y	
201-1	RMQ0420	WASHER	
202	RXF0046	FLYWHEEL(R) ASS'Y	
202-1	RMQ0421	WASHER	
203	RML0272	SWITCH LEVER	
204	RXQ0265	HEAD BASE ASS'Y	
204-1	RMB0266-1	SPRING	
204-2	RXM0036	ROD	
205	XYC2+JF16	SCREW	
206	RFKRSTR777	HEAD BLOCK(P.B:DECK1)ASS'Y	
206	RFKRSTR979	HEAD BLOCK(R/P:DECK2)ASS'Y	
206-1	RHD17015	AZIMUTH SCREW	
206-2	RMB0352-1	SPRING	
206-3	RMQ0360A	CONNECTOR HOLDER	
207	RDV108ZA	BELT	
208	RDK0019A-1J	MAIN GEAR	
209	RMB0261	SPRING	
210	RMB0262	SPRING	
211	RMB0263	SPRING	
212	RMB0264	SPRING	
213	RUW147ZA	SPRING	
214	RML0267A	LEVER	
215	RML0268A	LEVER	

Ref. No.	Part No.	Part Name & Description	Remarks
216	RMM0091A	ROD	
217	RMS0398-1	MOVING IRON CORE	
218	RSJ0003	SOLENOID	
219	RUS609ZC	SPRING	
220	RXG0036	REEL TABLE GEAR	
221	RXL0106	IDLER LEVER	
222	RXP0052	PINCH ROLLER(F) ASS'Y	
222-1	RMB0259	SPRING	
223	RXP0053	PINCH ROLLER(R) ASS'Y	
223-1	RMB0260	SPRING	
224	RDG0206A-1	GEAR	
225	RDG0209A	GEAR	
226	REM0036-1	CAPSTAN MOTOR ASS'Y	
227	REM0043	REEL MOTOR ASS'Y	
228	RHD26013	SCREW	
229	RMQ0537	DRIVE GEAR	
230	RMQ0314A	SPACER	
231	RXG0037	GEAR ASS'Y	
232	RMQ0536	DRIVE RACK	
233	RYF0334-K	CASSTTE HOLDER ASS'Y	
233-1	RUS757ZA	SPRING	
233-2	RMB0397	SPRING	
234	RFKJSCA7NB	MAIN CHASSIS ASS'Y	
235	RFKJSCA7NA	SUB CHASSIS ASS'Y	
236	XTW26+6L	SCREW	
237	RMB0268	SPRING	
238	RML0271A	LEVER	
239	XTW2+6S	SCREW	
240	RXR0018	REEL TABLE	
241	XTW2+5L	SCREW	
242	XTW26+12S	SCREW	
		<GREASE OR JIG/TOOL>	
		TEST TAPE	
SA1	QZZCFM	HEAD AZIMUTH ADJ. CHECK	
SA2	QZZCWAT	TAPE SPEED ADJ. CHECK	
		GREASE	
SA3	SZZ0L18	FLOIL AK-152	
SA4	RZZ0L02	SWAFLUID #56	
SA5	RZZ0L05	MOLYCOAT EM-20L	

■RESISTORS AND CAPACITORS

Notes: * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R101, 102	ERDS2TJ682T	1/4W 6.8K
R103, 104	ERDS2TJ104	1/4W 100K
R105, 106	ERDS2TJ102	1/4W 1K
R107, 108	ERDS2TJ820	1/4W 82
R110	ERDS2TJ334	1/4W 330K
R113, 114	ERDS2TJ103	1/4W 10K
R115, 116	ERDS2TJ472	1/4W 4.7K
R117	ERDS2TJ123	1/4W 12K
R118	ERDS2TJ102	1/4W 1K
R119, 120	ERDS2TJ330	1/4W 33
R121	ERDS2TJ475T	1/4W 4.7M
R123-126	ERDS2TJ104	1/4W 100K
R127, 128	ERDS2TJ222	1/4W 2.2K
R129	ERDS2TJ333	1/4W 33K
R130	ERDS2TJ273	1/4W 27K
R131	ERDS2TJ562	1/4W 5.6K
R132	ERDS2TJ104	1/4W 100K
R133	ERDS2TJ103	1/4W 10K
R134	ERDS2TJ473	1/4W 47K
R135	ERDS2TJ334	1/4W 330K
R136	ERDS2TJ473	1/4W 47K
R137	ERDS2TJ334	1/4W 330K
R141	ERDS2TJ103	1/4W 10K
R142, 143	ERDS2TJ562	1/4W 5.6K
R145	ERDS2TJ183T	1/4W 18K
R147-150	ERDS2TJ562	1/4W 5.6K
R153, 154	ERDS2TJ681	1/4W 680
R157, 158	ERDS2TJ223	1/4W 22K
R159	ERDS2TJ104	1/4W 100K
R160	ERDS2TJ103	1/4W 10K
R165, 166	ERDS2TJ104	1/4W 100K
R167-169	ERDS2TJ222	1/4W 2.2K
R170	ERDS2TJ472	1/4W 4.7K
R171	ERDS2TJ682T	1/4W 6.8K
R172, 173	ERDS2TJ122	1/4W 1.2K
R174, 175	ERDS2TJ103	1/4W 10K
R176	ERDS2TJ392T	1/4W 3.9K
R177	ERDS2TJ273	1/4W 27K
R178	ERDS2TJ334	1/4W 330K
R181, 182	ERDS2TJ103	1/4W 10K
R207, 208	ERDS2TJ104	1/4W 100K
R209, 210	ERDS2TJ332	1/4W 3.3K
R213, 214	ERDS2TJ122	1/4W 1.2K
R215, 216	ERDS2TJ822	1/4W 8.2K
R220	ERDS2TJ470	1/4W 47
R221, 222	ERDS2TJ221	1/4W 220
R223, 224	ERDS2TJ222	1/4W 2.2K
R225, 226	ERDS2TJ243T	1/4W 24K
R227, 228	ERDS2TJ561	1/4W 560
R229	ERDS2TJ102	1/4W 1K
R230	ERDS2TJ222	1/4W 2.2K
R232	ERDS2TJ273	1/4W 27K
R237, 238	ERDS2TJ122	1/4W 1.2K
R301	ERDS2TJ103	1/4W 10K
R302	ERDS2TJ182	1/4W 1.8K
R303	ERDS2TJ682T	1/4W 6.8K
R304	ERDS2TJ223	1/4W 22K
R305	ERDS2TJ123	1/4W 12K
R306	ERDS2TJ223	1/4W 22K
R307	ERDS1FVJ2R2T	1/2W 2.2 ⚠
R308	ERDS2TJ102	1/4W 1K
R309-311	ERDS2TJ472	1/4W 4.7K
R313	ERDS2TJ1R0	1/4W 1.0
R501, 502	ERDS2TJ151	1/4W 150
R601, 602	ERDS2TJ472	1/4W 4.7K
R603	ERDS2TJ221	1/4W 220
R605	ERD2FCVJ4R7T	1/4W 4.7 ⚠
R607	ERD2FCVG100T	1/4W 10 ⚠
R609	ERDS2TJ470	1/4W 47
R610	ERDS2TJ152	1/4W 1.5K
R611-613	ERDS2TJ1R0	1/4W 1.0
R614	ERDS2TJ222	1/4W 2.2K
R615	ERDS2TJ332	1/4W 3.3K
R616	ERDS2TJ103	1/4W 10K
R626-630	ERDS2TJ1R0	1/4W 1.0
R631	ERDS2TJ561	1/4W 560
R701, 702	ERDS2TJ103	1/4W 10K
R704	ERDS2TJ472	1/4W 4.7K
R705	ERDS2TJ473	1/4W 47K
R707, 708	ERDS2TJ472	1/4W 4.7K
R710	ERDS2TJ102	1/4W 1K
R711	ERDS2TJ104	1/4W 100K
R712, 713	ERDS2TJ683	1/4W 68K
R715	ERDS2TJ472	1/4W 4.7K
R718	ERDS2TJ683	1/4W 68K
R720	ERDS2TJ683	1/4W 68K
R721	ERDS2TJ103	1/4W 10K
R722	ERDS2TJ562	1/4W 5.6K
R725	ERDS2TJ103	1/4W 10K
R727	ERDS2TJ472	1/4W 4.7K
R728	ERDS2TJ332	1/4W 3.3K
R729	ERDS2TJ472	1/4W 4.7K
R733	ERDS2TJ473	1/4W 47K
R735	ERDS2TJ472	1/4W 4.7K
R736	ERDS2TJ103	1/4W 10K
R738	ERDS2TJ102	1/4W 1K
R739	ERDS2TJ272T	1/4W 2.7K
R740	ERDS2TJ473	1/4W 47K
R741	ERDS2TJ123	1/4W 12K
R742	ERDS2TJ103	1/4W 10K
R743, 744	ERDS2TJ102	1/4W 1K
R801-804	ERDS2TJ103	1/4W 10K
R805	ERDS2TJ392T	1/4W 3.9K
R806, 807	ERDS2TJ103	1/4W 10K
R808	ERDS2TJ392T	1/4W 3.9K
R809	ERDS2TJ682T	1/4W 6.8K
R810	ERDS2TJ103	1/4W 10K
R811-813	ERDS2TJ272T	1/4W 2.7K
R814, 815	ERDS2TJ152	1/4W 1.5K
R816	ERDS2TJ272T	1/4W 2.7K
R817	ERDS2TJ105T	1/4W 1M
R818	ERDS2TJ2R2T	1/4W 2.2
R819	ERDS2TJ105T	1/4W 1M
R820	ERDS2TJ2R2T	1/4W 2.2
R821	ERDS2TJ391	1/4W 390
R822	ERDS2TJ331	1/4W 330
R900	ERDS2TJ821	1/4W 820
R901	ERDS2TJ102	1/4W 1K
R902	ERDS2TJ122	1/4W 1.2K
R903	ERDS2TJ152	1/4W 1.5K
R904	ERDS2TJ182	1/4W 1.8K
R905	ERDS2TJ222	1/4W 2.2K
R906	ERDS2TJ332	1/4W 3.3K
R907	ERDS2TJ472	1/4W 4.7K
R908	ERDS2TJ682T	1/4W 6.8K
R909	ERDS2TJ123	1/4W 12K
R910	ERDS2TJ223	1/4W 22K
R911	ERDS2TJ683	1/4W 68K
R912	ERDS2TJ471	1/4W 470
R914-917	ERDS2TJ681	1/4W 680
R918, 919	ERDS2TJ471	1/4W 470
R921, 922	ERDS2TJ102	1/4W 1K
R923	ERDS2TJ471	1/4W 470
R924	ERDS2TJ821	1/4W 820
R925	ERDS2TJ102	1/4W 1K
R926, 927	ERDS2TJ473	1/4W 47K
R971	ERDS2TJ221	1/4W 220
R971A	ERDS2TJ221	1/4W 220
R973	ERDS2TJ393	1/4W 39K
R973A	ERDS2TJ393	1/4W 39K
R974	ERDS2TJ393	1/4W 39K
R974A	ERDS2TJ393	1/4W 39K
		CAPACITORS

Ref. No.	Part No.	Values & Remarks
C101, 102	ECBT1H221KB5	50V 220P
C103, 104	ECBT1H561KB5	50V 560P
C105, 106	ECEA1EKA4R7B	25V 4.7U
C107, 108	RCE0JKA470BG	6.3V 47U
C109, 110	ECBT1H561KB5	50V 560P
C111, 112	ECQB1H183JF3	50V 0.018U
C113, 114	ECBT1H331KB5	50V 330P
C115, 116	ECEA1EKA4R7B	25V 4.7U
C119, 120	ECEA1EKA4R7B	25V 4.7U
C121	ECEA1HKAR33B	50V 0.33U
C123	ECQB1H153JF3	50V 0.015U
C124	ECBT1H102KB5	50V 1000P
C125	ECEA1AKA220B	10V 22U
C126	RCE1AKA101BG	10V 100U
C127	RCE1CKA100BG	16V 10U
C128	RCE0JKA470BG	6.3V 47U
C130-132	ECBT1H101KB5	50V 100P
C133	ECEA1HKA010B	50V 1U
C134	RCE1HKA3R3BG	50V 3.3U
C137	ECEA1HKA010B	50V 1U
C139, 140	ECEA1EKA4R7B	25V 4.7U
C141-144	ECBT1H471KB5	50V 470P
C145, 146	ECBT1C332KR5	16V 3300P
C150	ECBT1H104ZF5	50V 0.1U
C203, 204	ECEA1EKA4R7B	25V 4.7U
C205, 206	ECEA1HKA010B	50V 1U
C211, 212	ECBA1H681KB5	50V 680P
C213, 214	ECEA1EKA4R7B	25V 4.7U
C215, 216	RCE1CKA100BG	16V 10U
C217, 218	ECEA1HKAR68B	50V 0.68U
C219	RCE1CKA101BV	16V 100U
C221, 222	RCE1HKA2R2BG	50V 2.2U
C225, 226	ECBT1H221KB5	50V 220P
C227, 228	ECBT1C682KR5	16V 6800P
C229-232	ECQB1H222JF3	50V 2200P
C235, 236	ECEA1HKAR33B	50V 0.33U
C237	ECEA1EKA330B	25V 33U
C238	RCE1CKA100BG	16V 10U
C239, 240	ECBT1C122KR5	16V 1200P
C302	ECEA2AN2R2SB	100V 2.2U
C303	ECQP2E472JZT	250V 4700P
C304	ECA1AKF820B	10V 82U
C305	ECEA1HKA0R1B	50V 0.1U
C306	ECQB1H393JF3	50V 0.039U
C307	ECBT1H102KB5	50V 1000P
C308	ECBT1C332KR5	16V 3300P
C309	RCE0JKA470BG	6.3V 47U
C310, 311	ECBT1C103KS5	16V 0.01U
C323	ECBT1H102KB5	50V 1000P
C601, 602	ECFR1H104ZF	50V 0.1U
C603, 604	ECA1CM222B	16V 2200U ⚠

Ref. No.	Part No.	Values & Remarks
C606	ECA1HM101B	50V 100U
C607	ECA1AM471B	10V 470U
C608	RCE1AKA101BG	10V 100U
C609	ECBT1E103ZF	25V 0.01U
C611	ECEA1HKA010B	50V 1U
C613	RCE1AKA470BG	10V 47U
C614, 615	ECBT1E103ZF	25V 0.01U
C617	ECBT1H102KB5	50V 1000P
C701	ECBT1C105ZF5	16V 1U
C702	RCE0JKA101BV	6.3V 100U
C705	ECBT1E103ZF	25V 0.01U
C706	RCE1HKA3R3BG	50V 3.3U
C707, 708	ECBT1E103ZF	25V 0.01U
C801, 802	ECBT1H101KB5	50V 100P
C803	ECBT1H104ZF5	50V 0.1U
C804	ECEA1EKA470B	25V 47U
C805	ECBT1H101KB5	50V 100P
C807	RCE1AKA101BG	10V 100U
C809	ECBT1E223ZF	25V 0.022U
C810	ECBT1H104ZF5	50V 0.1U
C811	ECEA1EKA470B	25V 47U
C812	ECBT1H101KB5	50V 100P
C813	RCE1AKA101BG	10V 100U
C814, 815	ECBT1H101KB5	50V 100P
C816	ECBT1E223ZF	25V 0.022U
C818	ECBT1H104ZF5	50V 0.1U
C901	ECBT1H471KB5	50V 470P
C902	ECBT1H104ZF5	50V 0.1U
C903	ECBT1H471KB5	50V 470P

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